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THE

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OF

Medicine and the Collateral Sciences.

FRIDAY, APRIL 5, 1844.

ON THE SPECIAL FUNCTION OF THE SKIN.*

By R. Willis, M.D.

(For the London Medical Gazette.)

The end for which the cutaneous exhalation exists has been avowed by the first authorities of the age in animal physics and chemistry, not to be understood. "The quantity of solid matter," says Berzelius (Chimie, trad. par Esslinger, tom. vii. p. 330), "which escapes from the body by this channel is extremely small, and all its constituents are besides encountered in the urine; the elimination of this matter cannot, therefore, be viewed as the principal function of the skin. Water is, in fact, the chief article thrown off by the skin; and, in speaking of the animal heat, it has been said that the perspiration serves to regulate or depress the temperature of the body when it has been raised by violent exercise or any excessive heat of the surrounding air. But the intimate connexion that subsists between the function of the skin and the bodily health proclaims it to have been instituted for yet another purpose, the nature of which is unknown us."

This statement of the distinguished Swedish chemist is repeated, almost in the same words, by Professor Müller. He says briefly, (Physiology, English version, p. 580): "The object of the cutaneous exhalation is not elucidated by its analysis; for the matters met with in it are also constituents of the urine;" and it might have been added, of the organic fluids generally.

My views and inquiries lead me to conclude that the business of the skin is to eliminate water only, that the saline and gaseous ingredients of its secretion are entirely adventitious. Water, however, unlike the other excretions, is not only not deleterious to the economy, but is indispensable in every one of its operations, and it has, besides, its most obvious, and apparently needful outlet by the kidney, as the vehicle of the urea and the generally little soluble salts of the urine. Wherefore, then, a system charged with the business of throwing off water? The answer always given to this question is that upon which Berzelius is seen condescending particularly; although, by the limitation in the middle of the paragraph quoted, and the concluding observation, with evident misgivings of its sufficiency. The object of the cutaneous exhalation, it is said, is to regulate or reduce the temperature of the body.

There are, however, many considerations which should, I conceive, incline us to regard this particular duty as much more restricted than it is generally believed to be; and, indeed, in the uniformity with which the more perfect animals come into the world ready clothed, and with which man contrives to clothe himself over four-fifths of the earth's surface—the end and influence of the clothing, in every instance, being to prevent the consequences of exposure of the naked skin to the air—we have a sure indication that the animal body has but a limited capacity to engender heat. Nay, is there not even something like an absurdity involved in the idea of a particular system existing for the purpose of dissipating heat,—heat which is the indispensable agent, if it be not, perhaps, the immediate cause of every manifestation of vitality, and which it is one principal business of all the efforts of man over so large a portion of the earth's surface to economise and maintain? To say that the cutaneous exhalation exists for the purpose of cooling the body, is surely to mistake an effect for a cause, to give preference to a minor over a major consequence: heat is lost, indeed, to a great extent from the surface of the living body; but the loss here is

* Read before the Royal Society, March 2d, 1843. Communicated by John Bostock, M.D., F.R.S.

not, cannot be, the end; it is but a means to an end; and this, the researches of the most distinguished physiologists, rightly interpreted, concur in showing to be the dissipation, in the form of vapour, of a certain portion of the watery element of the blood

The belief, now general, in the great refrigerating power, and, by an extension of the idea, in the refrigerating office of the skin, is grounded on the experiments of our early English inquirers into the subject of animal heat—Fordyce, Blagden, Solander, and Banks. To take the interpretation that is always given of their experiments—and indeed it is the conclusion which they sanction—we should infer that a human being or an animal might remain for almost an unlimited length of time in a chamber heated to twice the temperature of its body, without detriment to its health, and without the acquisition of a single degree of heat. But the experiments of Crawford, and the more recent researches of Messrs. Delaroche and Berger (Theses de Paris, 1806, No. 11: Experiences sur les effets qu'une forte chaleur produit sur l'economie animale), which are frequently quoted as favouring the same idea, are without a single exception directly opposed to it. Messrs. Delaroche and Berger observed that the health of the animals which were the subjects of their experiments in the hot chamber, was so seriously affected, that few of them withstood exposure in it for an hour without being reduced to extremity, and that when removed either in a dying state or at the moment of their death, their internal temperature was from 11·5° to 15·75° Fahr. higher than it had been on their entrance. Nor was the case different in regard to man; although, from the subjects of observation here not being shut up in the stove till they died, the rise in temperature noted was of course less remarkable. To discover that it was both signal enough and rapid enough, however, the 37th experiment, of which M. Delaroche was himself the subject, may be referred to. On entering the heated chamber M. Delaroche's internal temperature was 29½ Reaum.; on quitting it after no longer a stay than eight minutes, his internal temperature indicated 33½ Reaum. In this very short space of time, therefore, the temperature of the internal parts of M. Delaroche's body had actually gained 4° Reaum., or 9° Fahrenheit.

In a memoir* published several years subsequently to his inagural dissertation, M. Delaroche himself refers to the misinterpretation of his experiments, and the neglect of the true conclusions to which they lead. He says, in express terms (l. c. p. 291): "J'ai vu constamment que la temperature des animaux exposés à une chaleur de plus de 35° ou 40° C. s'élevait d'une manière tres marqué; que cette elevation de temperature allait jusque à 6° ou 7° C.; et je me suis assuré que lorsque la chaleur exterieure est très considerable, cet accroissement de temperature n'a d'autre borne que la mort de l'animal, qui en est la suite necessaire." "La faculté de produire du froid," he continues, "est beaucoup plus restreinte qu'on ne le crois ordinairement."

These experiments of Delaroche and Berger, then, prove beyond all question, that the animal body has no power of resisting temperatures of the surrounding medium in any considerable degree higher than itself. Nor does this observation apply only to the excessive temperatures, such as 140° and 190° F. which were used in the experiments of Delaroche and Berger with the dry air stove; it applies equally to atmospheres of much inferior degrees of heat. Dr. Davy, for instance, ascertained that the internal temperature of the companions of his voyage from England to Ceylon, rose gradually as warmer latitudes were gained, and, arrived at their destination, that it was from 2·7° to 3·6° F. higher than it had been in this country He had already ascertained that the temperature of the sheep was from 1° to 2°, and even 3° F. higher in summer than in winter; and Dr. Edwards subsequently discovered that the temperature of the common sparrow rose and fell with the season. In the month of February the mean temperature of the house-sparrow was found to be 105° F.; in April it was 108°, and in July 111° F. There can be no question of this law being quite general. Man in especial is fashioned in harmony with the varying circumstances in which he is placed as the native or the visitant of every point upon the surface of the earth; and if he have the wonderful attribute of preserving his temperature nearly at the same degree of the thermometer under the equator, and in the icy regions bodering upon the poles, this is certainly in virtue of something else than the greater or less activity of the exhaling function of his skin. The process by which heat is evolved in the animal body, as maintained by the immortal Black in the middle of the last century, is now recognized not to be different, in fact, from that by which it is generated in our stoves and furnaces: in these with the freest access of air and abundance of fuel there is a great evolution of heat; feebly blown, and scantily fed with combustible matter, there is little heat produced. In like manner the quantity of caloric evolved in the animal body is inseparably connected with the energy of the respiratory process, and the kind and quantity of the food that is consumed, and matters are so adjusted that the degree in reference to man and the larger mammalia is

* Sur la cause de refroidissement qu'on observe chez les animaux exposés à une forte chaleur. in Journal de Physique, tom. 71, p. 289, et sequent.

uniformly hard upon 98° Fahr. In tropical countries man lives and thrives on a few ounces of vegetable aliment in the course of the day, and here he breathes short, and consumes comparatively little oxygen; in the frozen regions of the extreme north and south, on the contrary, where he takes deep draughts of an air condensed by the cold according to its degree, and consumes a large quantity of oxygen, he must have several pounds of animal food, the fatter the better, in the course of the twenty-four hours, and, in addition, be thickly clad in wool and fur, to be maintained in vigour.*

It is therefore altogether impossible to fix upon any sum that should express the capacity of the human or animal body to produce heat; this varies with every parallel of latitude, with every degree of temperature in the atmosphere inhaled, with the state of repletion and of fasting, of exertion and of repose, &c. &c. Unprotected by clothing, at rest, and feeding upon roots and fruits, the power to maintain a temperature of about 98° F. is probably in relation with an external temperature of from 80° to 90° F.: but shrouded in fur, and well supplied with food abounding in hydro-carbonaceous matter, the standard is maintained, as we know, upon the shores of the Polar Seas.

The temperature of the human body, however, is no constant quantity; it varies even in the state of health, as has been seen—within narrow limits, indeed, yet it varies; in states of disease it presents much more decided fluctuations. Any rise above the standard, assuming this to be 98° F. for these latitudes, will be effected, we must presume, from what has already been stated, in one of two ways: 1st, by an accelerated circulation of the blood, accompanied by a corresponding increase in the rate of the respiration; and, 2dly, by the body being so circumstanced that it should lose none of its engendered caloric. And we accordingly find that the circulation and the respiration are alike augmented in force and frequency in those circumstances in which the temperature tends to rise, and does actually rise above the standard, as in acute febrile and inflammatory diseases, and when the native of a cold climate, with his capacious chest and voracious appetite, is suddenly transported to a hot climate. But there are very narrow limits to the rise of temperature under these circumstances: excitement in the animal body is ever speedily followed by exhaustion; if the current of blood be driven more rapidly, the wave sent forth by each stroke of the heart soon becomes smaller; if the breathing be quickened, the volume of air inspired is less; and then the appetite for food having failed, there is no longer any fresh supply of combustible material in the shape of aliment, and the body begins to feed upon itself. In short, it is quite certain that the temperature of the human body, labouring under disease, or otherwise, has never been seen higher than that which is normal and appropriate to many animals.

With regard to the second condition needful to a rise of temperature, hinted at above, that, to wit, of the body losing none of its engendered caloric to the surrounding medium, this is a state of things that exists nowhere permanently on the earth's surface. The mean diurnal temperature of the hottest lands within the tropics does not exceed 84° or 85° F.—fourteen degrees under that which is held the standard of the human body in temperate countries; by so much, consequently, must the body be warmed by its inherent powers, in order to maintain itself at its proper temperature. The heat of the air in intertropical regions, it is true, occasionally mounts to 100° or 106°, and, it has been said, even to 110° F., but this is never for any length of time; and it is certain that no degree of activity in the function of his skin then suffices to enable man to support for a succession of days or weeks such temperatures as these. In countries where the thermometer rises at times to 100° F. or more, the inhabitants have to betake themselves at such seasons to caves and cellars, where the temperature is much lower, and there to remain supine; forced to show themselves abroad, and to use exertion of any kind, they speedily sink exhausted, and die—their temperature having

* Vide, in connexion with this subject, Dr. Crawford's classical work on Animal Heat, where all the discoveries of more recent inquirers will be found, ready made, and only requiring to be taken out of their place to be appropriated and found new and highly interesting; as also the appendix to the narrative of a voyage towards the North Pole by Sir John Ross, and the lately published volume of Dr Justus Liebig: Animal Chemistry, in connexion with Physiology. The following extract is from Dr. Crawford's second edition, Lond. 1788:—

"It appears, therefore, that the heating and cooling powers in the animal body are adjusted to each other in such a manner as to produce an equal effect; and, consequently, the law by which animals maintain an uniform temperature, notwithstanding the variations in the heat of the surrounding air, is similar to that by which the temperatures of bodies become fixed when they have arrived at the melting or freezing points.

"Hence the power which animals possess of generating heat is, in all cases, proportioned to the demand. It is increased by the winter colds, diminished by the summer heats.

"Among different animals, those are the hottest which breathe the greatest quantity of air in proportion to their bulk; and in the same animal the degree of heat is in some measure proportionable to the quantity of air inhaled in a given time.

"These varieties appear to be the necessary consequences of the general fact that the heat of the breathing animal is derived from the air. For if animal heat depends upon a change which the air undergoes in the lungs, it is evident that, all other circumstances being equal, the greater the quantity of air which is changed in a given time, the greater must be the heat produced.

undoubtedly risen to a point that was incompatible with the continuance of life; precisely as happened with the animals which were the subjects of Delaroche and Berger's experiments. Under such circumstances, the function generally ascribed to the skin as the refrigerator of the body would certainly come into operation; but what shall be said of a natural function that proves incompetent to its office, that fails to preserve the body in health; or of one that should only come into play under peculiar circumstances, at particular times, and over a very limited portion of the earth's surface? A refrigerating faculty of the skin might, therefore, sometimes be found useful within the tropics; but wherever man feels the necessity of clothing himself, there it would be useless. In temperate and cold climates such a faculty is not only not required, but is even sedulously guarded against. Nevertheless, the office of the skin is indispensable to life in every climate of the globe—at the arctic circle as under the equator.

And here a very important question naturally presents itself: Is the diminution or suppression of the perspiration, sensible and insensible, necessarily and invariably followed by a rise in the temperature of the body? It ought to be so if the views of the cutaneous function generally adopted be well founded.

In febrile and inflammatory diseases it is familiarly known that there is an increase of temperature, and along with this, as is commonly said, a suppression of the cutaneous exhalation. That there is a diminution in the exhaling function of the skin during the hot periods of fevers seems certain; to assert that there is a total suppression is, I believe, an error. I have always seen a polished plate of metal, brought close to the most burning skin, become dim. And then, are there not other circumstances in which the exhaling function of the skin is in abeyance, yet in which the temperature falls below the standard? Yes, there are. In the initiatory cold stage of fever, when the skin is dry and shrivelled, the temperature sinks; and in œdema of the extremities, and in the second and later stages of general anasarca, where the cutaneous perspiration is more completely suppressed, perhaps, than it is in any other disease, the temperature is constantly found to decline. Under no circumstances do we observe so icy a state of surface, and, I believe also, so low a grade of internal temperature, as accompany the dry and parchment-like skin of subcutaneous dropsy. In that curious disease of early infancy called sclerodermia, or skin-binding, one of the very remarkable features of the disease is the loss of vital warmth, which begins at an early period of the affection, and in fatal cases—and the great majority of cases are fatal—goes on continually augmenting until life is extinct, when the internal as well as external parts of the body are often 10°, 15°, 20°, and even 23° F. under the standard. Similar depressions of temperature, internally as well as externally, are well known to follow extensive destructions of the skin by burns and scalds, when its peculiar function is of course annihilated. Now the rise in the temperature generally, which accompanies febrile diseases, when the exhaling function of the skin is certainly diminished, and the fall in the temperature under other circumstances, when the same process is implicated in fully as great a degree, assure us that the increase of temperature in the one case, and its fall in the other, depend on something which is not included in the commonly-admitted theory of the cutaneous function. We have happily the evidence of other positive and most remarkable facts to prove that such is the case.

M. Fourcault had ascertained that an animal whose body was covered with an impervious glaze or varnish, in every instance suffered a notable derangement of health; and, if the application were tolerably complete, that it perished after the lapse of a few hours, or of several days. Whether M. Fourcault noted all the phenomena which precede and accompany the extinction of life under such circumstances does not appear from the notice of his Memoir to the Royal Academy of Sciences of Paris, which has been given to the public (Comptes Rendus des Seances de l'Academie Royale des Sciences, &c. tom. ix. p. 44.) The experiments of M. Fourcault have, however, been recently repeated by Messrs. Becquerel and Breschet*, and they observed that the suppression of the cutaneous exhalation was immediately followed, not by a *rise*, but by a signal *fall*, in the temperature of the animal, and this not only as regarded the surface, but the deeper internal parts also—a fall that went on increasing every instant from the beginning of the experiment till life was extinct, when the body was found to be but a few degrees Cent. higher in temperature than the surrounding air. Thus, in their first experiment, Messrs. Breschet and Becquerel found that a rabbit, prepared in the manner of M. Fourcault, whose internal temperature at first was 38° Cent., had fallen in half an hour to 32° Cent.; and in an hour to 24°·5 Cent. In their second experiment, another rabbit, very carefully prepared, had fallen, in one hour and a half, from 38° C. to 20° C., no more than three degrees above the temperature of the atmosphere, which, on the occasion, indicated 17° Cent. In one hour and a half more the animal had expired.

To the conclusion that such would be the case I had myself attained from observing the phenomena of disease, and from analogi-

* Vide Comptes Rendus, Oct. 18, 1841.

cal reasoning. I had seen the function of the skin as an essential element in the process of nutrition, and concluded that, were that function arrested, this process would cease, vital manifestation be at an end, and the temperature fall as a matter of course.

The ideas formerly entertained in regard to nutrition and secretion as effected by open-mouthed capillaries are no longer tenable, are no longer maintained: there is no such thing as an open-mouthed capillary vessel; every capillary artery ends in a capillary vein, and nutrition and secretion are accomplished by an elective attraction between the substance of the several tissues and organs and the appropriate matter held in solution in the general nutrient fluid—the blood. But the blood, still contained within its conducting channels, being inefficient as a vivifying fluid, transudation of these channels by the plasma, or prepared nutrient element, is implied; and this is now known and acknowledged to take place abundantly at every point of the body: the spongy texture of the canals in which the blood is contained, particularly when put on the stretch by the injecting force of the heart, permits the freest transudation. But how, or by what means, does the fluid thus incessantly transuded find its way back into the circulation? That it should do so was obviously even as necessary as that it should escape. The answer generally given to the question just asked is this: the exuded fluids return into the veins by heterogeneous attraction or endosmose. And this is true. But the conditions to endosmose, in the sense in which that remarkable phenomenon is usually understood, are the mediate contact of fluids having different densities; and no means have yet been assigned by physiologists for securing a greater degree of density in the returning current than in the outgoing current of the circulating fluid. This means I find in the exhaling function of the skin, the end and import of which I regard as subservient to securing the conditions that are necessary to the return into the venous circulation of the fluids that have been shed from the arteries for the purposes of nutrition and vital endowment.

Reasoning *à priori*, we should have said that the blood returning in the veins to the heart must be more dense than that which is leaving it, by the whole amount of watery fluid abstracted in the course of the peripheral circulation. That which is true of the whole must also be true of the several parts: the venous currents of secreting organs, the products of which are essentially watery, must be more dense than their arterial currents. The blood of the emulgent vein, for example, must be denser than that of the emulgent artery by the entire amount of water, less the saline matter, which is taken from it in its passage through the kidney. But as the density of healthy urine is often no greater than 1·015, 1·020, or 1·025, whilst that of the blood is from 1·050 to 1·060, it is obvious that the degree of condensation effected in the portion of blood which has circulated through the kidney must be very considerable. The blood of the hepatic vein, in like manner, must be more dense than that of the vena portæ, by the whole quantity of water which is taken from it in its course through the liver to form the bile. So, also, the returning current from every secreting gland, the product of which is essentially watery, must be more dense than the outgoing current. Finally, the blood which is circulating in the peripheral parts of the body must become more dense in its circuit by the entire quantity of pure water which is taken from it by the extensive system of sudoriporous glands, a quantity which has been ascertained to amount, on an average, to upwards of thirty ounces per diem.

Direct experiment demonstrates that all this is the case. Dr. Davy, in one of the many series of ingenious researches which he has instituted in the course of his useful life, ascertained that the specific gravity of arterial and venous blood, taken at the same moment from the same animal, differed materially in every instance, save one, where the two fluids were of the same density. Dr. Davy found, farther, that there was a corresponding, but still more remarkable, difference in the specific gravities of the serum of the two kinds of blood. Taking the mean of the whole of Dr. Davy's experiments, the specific gravity of venous blood turns out to be 1·053; that of arterial blood but 1·050. The specific gravity of the serum of venous blood, again, appears in the mean to be 1·026; that of the serum of arterial blood no more than 1·022*.

* The following table is taken from Dr. Davy's Researches, Anatomical and Physiological, Vol. ii. p. 24.

Table shewing the specific gravity of blood, venous and arterial, of different animals, and of different ages.

Animal.	Age.	Art. bl.	Ven. bl.
Sheep 1	—	1050	1056
2	6 years	1057	1058
3	16 mo.	1049	1051
4	—	1047	1050
5	3 years	1047	1051
Lamb 1	11 weeks	1052	1055
2	..	1046	1057
3	..	1054	1054
4	..	1050	1053
5	..	1047	1050
Ox —	—	1058	1061
Calf —	—	1040	1046
Dog —	—	1048	1053
Mean		1050	1053

Dr. Herman Nasse, in his admirable work on the blood*, informs us that his researches agree, in almost every particular, with those of Davy. In every one of his trials he found the venous blood of somewhat higher density than the arterial blood, the difference being generally about 3·0 in favour of the former. He, also, on no occasion found the serum of venous blood of lower specific gravity than that of arterial blood; on the contrary it was generally appreciably heavier, the amount in its favour falling between 0·5 and 2·1 in 1000.

Hering† also ascertained that the venous blood of the ox, sheep, and horse, contained less water than the arterial blood. The mean of all his trials gives about 825·6 for the quantity of water contained in 1000 parts of arterial blood, and 812·0 for the quantity contained in 1000 parts of venous blood.

Dr. F. Simon‡, of Berlin, has very recently confirmed these interesting results obtained by Davy, Nasse, Hering, and others, not only in regard to arterial and venous blood at large, but, having extended the sphere of his inquiries, in reference to the arterial and venous, or out-going and in-coming, currents of several particular organs or systems. He always found the arterial or out-going current to contain a larger quantity of water, *i. e.* to be of greater density, than the venous or returning current, the difference, as might have been predicated, being greatest in reference to those organs where there was the most abundant separation of watery fluid.

In repeating these experiments upon the sheep, I have very regularly found the serum of venous blood of somewhat greater density than that of arterial blood; and even when, through imperfection of apparatus, the difference was extremely slight or inappreciable, on putting quantities of the two kinds of serum into an apparatus for shewing endosmose, I have still seen a current of considerable power established from the arterial to the venous side. This is the process, in fact, which, as carried on between the arteries and the veins of a living creature, constitutes venous absorption, the conditions necessary to which, viz. the higher density of the blood in the veins or returning vessels than in the arteries or efferent vessels, in all the peripheral parts of the body, being mainly due to the influence of the sudoriporous glands. In this way we perceive, at once, how the elimination of so much simple water from the surface of the body becomes so indispensable to health and life as it unquestionably is.

In connection with the important function of the sudoriporous glands, it is interesting to observe that the skin, in health, is especially aroused to activity under circumstances that increase the force and frequency of the heart's contractions: we perspire more copiously as we use more violent exertion. Wherefore is this? We do not observe that any of the other glands or glandular systems are excited to peculiar action under the same circumstances: the salivary glands do not then pour out more saliva than usual; on the contrary they seem to pour out less, so that the mouth becomes clammy and dry. The kidneys do not then elaborate more urine than wont; they seem often rather to eliminate less, &c. &c. The usual explanation given of the diminished activity of the salivary glands and kidneys is anything but satisfactory; the blood, it is said, being circulated in larger quantity to the capillaries of the skin, is therefore sent in less measure to the internal organs. But it is obvious that, as the heart injects a common trunk, which feeds the vessels of every part of the body, if there be more blood passing through the capillary rete of the skin during active exertion, there must, in like manner, be more passing through that of the kidney and of every other element of the body. Wherefore, then, the signal activity of the glandular apparatus of the skin under the circumstances indicated? First, because there is, with the accompanying augmented vigour of respiration and circulation, a more rapid consumption of carbon, and a consequent greater evolution of heat; second, because the function of the glandular apparatus of the skin is essential to secure the return into the venous system of the plasma which, under the influence of the extraordinary injecting force of the heart, is transuding the coats of the capillary arteries in unusual quantity: the returning stream must be inspissated in an unusual degree in order to have the endosmotic current from the areolæ and interstices of the component particles of the body into the veins, of power sufficient to keep the system drained of the fluid that is tending to overwhelm it.

In connection with this part of the subject it is farther not unimportant to observe that the sudoriporous glands are largest and most active in the precise situations where their function is most wanted, and also where it is calculated to prove of the greatest avail—the hands and feet. Insensible in every other part of the body, the perspiration is almost at all times sensible in the palms and soles; it never fails to become so under very slight exertion of any kind. The glandular apparatus of the skin has this peculiarity also, which we observe in none other, unless, indeed, the lymphatic system be regarded as the essential element of an

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* Das Blut in mehrfacher Beziehung, Bonn, 1836.

† Physiologie für Thierärzte, Stuttgard, 1832.

‡ Handb. der medicinischen angewandter Chemie, Berlin, 1841-1842.

universally distributed gland, which seems very probable—that it is *not concentrated*, but *diffused;* it is spread over the entire surface of the body; an arrangement which leads us to infer that its function was also needful over the entire periphery; for we very certainly find glandular organs in the neighbourhood of parts where their office or the products of their activity are required.

The value of the power engendered by the difference of density in the out-going and in-coming streams of the circulating fluid, in explaining morbid phenomena of several kinds, will be at once appreciated by the pathologist. It was, indeed, whilst engaged in studying the pathology of those diseases that are accompanied with effusion, and after having satisfied myself of the insufficiency of the generally received theories of their production in many instances, that I was led to look farther, and to discover a powerful and, as I believe, hitherto neglected cause of their origin in whatever interferes with the accomplishment of the conditions that are necessary to secure the normal difference of density between the arterial and venous portions of the circulating fluid. Whatever hinders the blood in the arterial capillaries from losing a portion of its water, will immediately have the effect of inducing effusion,—not primarily, however, as the expression *inducing effusion* would seem to imply, but secondarily—and in consequence of the normal effusion from the arteries not finding its way back, by heterogeneous attraction or endosmose, into the capillaries, the smaller and larger branches, and even the main trunks of the returning channels.

[The appendix to this paper, embracing pathological views from the preceding physiological considerations, in an early number.]

CONTRIBUTIONS

TO THE

PHYSIOLOGY OF THE HUMAN OVARY.

By Charles Ritchie, M.D. Glasgow.

(*For the Medical Gazette.*)

[Continued from p. 797.]

Part II.

Section VI.—*Ovaries in women, five, six, seven, ten, twelve, and thirty-six months after natural delivery, menstruation not having been re-established.*

1. Mrs. J——, aged 40. Mother of a family, the youngest being five months old. Ovaries large. Two or three minute vesicular points, and some remains of cicatrices, and a few vascular macules, on exterior. Interior of both occupied by several vesicles, one or two of which were as large as small dried peas. In one ovary were the fragmentary remains of an opaque cyst, and in the other, a globular-shaped, cartilaginous looking body, of the size of a large hemp-seed, of a bright canary yellow colour, and corrugated irregular surface, surrounded by a well-formed capsular covering, from which it could be easily enucleated, its only observed organic connection being a minute pedicle. The capsule, also, with a little gentle pulling, was raised from the ovary in the form of well-organized membrane, resembling the hull of a garden pea.

2. Mrs. M——, aged 35 years. Mother of five children, youngest being six months old. Appearance of menstruation for part of a day three weeks before death. Surface of ovaries occupied by some old cicatrices but nearly faded, by a few pores impermeable to a bristle, but which gave exit on pressure to a little fluid, also, by some minute vesicular elevations, which, on cutting into gland, were noticed to be portions of Graafian vesicles of about the size of coriander seed, imbedded in the peritoneal coat, with many more of which, filled with opaque fluid, and having thin delicate coats, the thickness of the peritoneal investiture, and the parenchyma of the glands, were studded, without any other appearance.

3. Mrs. L——, aged 30 years. Two children, youngest six months old.

Ovaries remarkably large, and nearly quite smooth, the vestiges of old fissures being scarcely to be perceived. Every part of interior of both glands richly studded with small but highly injected Graafian vesicles, without any trace of a cyst of any kind.

4. Mrs. R——, aged 42 years. Six children, eldest fourteen years, youngest six months. Both ovaries large, plump, fresh-looking, and without a trace of linear scars. Surface studded with minute vesicles; some in the form of dark spots only, not having yet penetrated the peritoneal covering; others protruding by a portion of their circumference through it, and others, again, burst, and exhibiting puncta still exuding fluid. A well-defined white body in each ovary, with another less marked, and numerous turgid ovisacs, were the only circumstances observable in interior of glands.

5. ——— ———, aged 40. Death from dropsy six months after delivery. Ovaries large, plump, and free from the cicatrices of the menstruating period, but tender at some points as if from the recent lesion of minute vesicles, and having large segments of two white bodies projecting from the peritoneal surface, which in this situation was absorbed. Within the one ovary there were six, and in the other eight white bodies, varying from the bulk of a mustard-seed to that of a large pea, and each constituted of a dense, corrugated, internal hollow membrane, inclosed in a thin but distinct and vascular covering, and this again in a capsular condensation of the ovary.

6. Mrs. ——, mother of ten children, youngest seven months old. Ovaries nearly smooth, but dotted with a number of open pores, and contained internally some Graafian vesicles, and about six little fatty looking and fissured white bodies, but no other cyst.

7. Mrs. R——, aged 37 years. Six children, youngest seven months old.

One ovary. Internal surface perfectly smooth, excepting two points of the diameter each of about a line, which were transparent vesicles, encircled at their bases by delicate opaque margins; also another point exhibiting a yellow elliptical-shaped vesicle of size of a pin-head, and a third which was a capillary-sized solution of the continuity of peritoneum. Internally were numerous small vesicles, one white body of size of a hemp seed, and as white as snow, and several grains of rhubarb-coloured matter.

Other ovary.—Free edge vascular and tender looking, as if from recent rupture of several small vesicles; one of which remained, of a scarlet colour, and with about two-thirds of its circumference external to peritoneal coat. In the structure of the surface of the ovary was a tumid ring of size of a barley-corn, having a central depression and pore, through which a bristle could be introduced into an empty vesicle, with opaque, but otherwise unaltered coats; also, one or two rhubarb-coloured points, and several vesicles, but no white or other body.

8. Mrs. H——, aged 32 years. Had had five children; youngest, which was lactating at mother's death, was ten months old.

One ovary.—Numerous old fissures, four or five minute transparent vesicles, and two puncta with red delicate areolæ on outer surface, and internally, four miliary sized white bodies, with the rough granular or fissured look, which depends on their state of great contraction on their cavities, and some vesicles.

Other ovary.—A yellow, shining, concretion of the consistence and appearance of candied sugar, and of the size of a pin-head, was imbedded in a superficial cup in the peritoneal coat; no minute vesicles, but one vascular pore was seen; and there were many pale coloured fissures, and at two points there appeared small mamillated tumors protruding from the surface. On laying these open, one was found to be a corrugated hollow body of a solid consistence and shining whiteness, inclosed in a thin capsule, and the other, which was also surrounded by a vascular covering, from which it was turned out with some adherent shreds of its substance, was likewise a corrugated corpus albidum, as large as a marrowfat pea, and contained some yellow fluid in its white shining cavity. There were also observed two other circular white bodies with capsules.

9. Mrs. C——, aged 42. Mother of six children, youngest a year old. Ovaries smooth, with exception of two slight indentations of old standing, corresponding to which internally were white bodies of cartilaginous consistence. Circumference of ovarian parenchyma studded with small vesicles.

10. C—— F——, aged 33. Mother of six children, youngest being three years of age. Had not weaned child, or menstruated.

Right ovary.—One inch seven lines in long, and six lines at broadest part of short diameter, smooth and of a reddish white colour, but viewed with a strong power some faint linear cicatrices were seen on surface, under which were two convoluted, fatty, or gristly, white bodies.

Left ovary.—One inch and three lines in length, and six lines broad. Two small vesicles beginning to present on smooth and white surface, and inner structure of both glands occupied by a number of unruptured Graafian vesicles, having their coats highly injected with blood. No traces of any other bodies.

[To be continued.]

A CASE OF
INVERSION OF THE UTERUS,

With Observations,

By T. Herbert Barker, Esq.

Member of the Royal College of Surgeons of England, Fellow of the Royal Medical and Chirurgical Society of London, formerly House Surgeon to the University College Hospital, &c.

(For the Medical Gazette.)

On January 21st of the present year, Mrs. C. was delivered of her first child after a labour of about six hours' duration. The liquor amnii escaped after the full dilatation of the os uteri. Eight or ten minutes elapsed between the birth of the head and that of the body, and about twenty minutes between the birth of the body and the expulsion of the placenta. The cord was of the average length, and not twisted around any part of the body. The placenta was detached and removed without more than ordinary traction of the cord. A napkin was applied to the external parts, and a bandage around the body, about twenty minutes after which my attention was arrested by a severe pain in the region of the uterus, which lasted about half a minute, and was not immediately followed by any discharge. In about half an hour after the expulsion of the placenta, having prepared an anodyne draught, I was about to leave the house, when I was called to my patient by the nurse, who stated that she was in a fainting-fit. On hastening to the bed-side, I found that she was indeed extremely pallid and exhausted. Ordering the immediate administration of some brandy and water, my attention was instantly directed to the vagina, and I found the napkin saturated with blood, which was flowing from the vagina to a fearful extent. Fearing that she would rapidly sink from the hæmorrhage, I was led, instinctively as it were, to introduce my hand into the vagina, with the view of plugging the cavity, and stopping the profuse flow of blood by pressure immediately upon the patent vessels. Just within the orifice of the vagina my fingers encountered a firm, hard, somewhat globular-shaped body, about the size of a small fœtal head, from the most depending part of which the blood was proceeding. At once regarding it as a case of inversion of the uterus, I grasped the fundus of the tumor firmly in my hand, and tried by gentle and continued pressure to effect reinversion of the organ, sending for the aid of my skilful and experienced friend, Mr. Hurst. Having now the hæmorrhage under control, my alarm for the safety of the patient somewhat subsided, and I continued my efforts to reduce the uterus, sometimes grasping the tumor, sometimes endeavouring to push it up with the back of the hand, (which latter mode only slightly dimpled the most depending part of the tumor,) but ineffectually, until Mr. Hurst arrived, when I withdrew my hand, to have the the opinion of that gentleman. Confirming my diagnosis of the case, we thought it desirable that no time should be lost in endeavouring to replace the inverted organ, which Mr. Hurst accomplished in about a quarter of an hour, by firmly grasping the tumor, at the same time making pressure upwards. Thirty drops of the tincture of opium were administered in brandy and water, and a sheet, several times doubled, was cautiously placed under the hip, in order to elevate the pelvis. The strictest quietude was enjoined, and I narrowly watched my patient for an hour and a half, occasionally examining per vaginam, and above the pubes, to ascertain if the body of the uterus retained its natural position and contracted state. At the end of that time, finding the os uteri, which before had been remarkably lax and flaccid, had pretty firmly contracted, that the body of the uterus was contracted above the pubes, that there was no discharge, and that my patient had thoroughly rallied, I felt at liberty to leave her, and she has since progressed to a favourable recovery, suffering from nothing more than inaction of the bowels. During life she has been affected with prolapsus of the rectum to a considerable extent.

So much of interest belongs to the case briefly related above, that I cannot allow its publication to pass without making a few observations, which, though they may not lay great claim to originality, may yet be serviceable to the junior portion of your readers. The references might have been much more numerous, but have been made from works more immediately within my reach, and will amply serve the purpose for which they are given.

That inversion of the uterus is fortu-

nately of rare occurrence there can be but little doubt. In rather an extensive midwifery-practice during the last few years, a case of the kind had never before presented itself to my notice; and in a much more extensive practice, and through a much longer period, my friend Mr. Hurst had met with but one case, which occurred to an irregular practitioner. In this case the child and placenta had been expelled before the party reached the house, who then proceeded to remove the latter, when he found it accompanied by something unnatural, and looking upon it as a diseased mass, cut it away *sans ceremonie*. The poor woman died, and on making a post-mortem examination Mr. Hurst found the protrusion to have been the completely inverted uterus. Dr. Robert Lee saw one case in 1826 at Odessa, after death had occurred, and adds, "I have not seen one case of inversion of the uterus since, which proves that at the present time the accident rarely occurs in London*".

Causes.—The present case most decidedly confirms the opinion of Dr. Radford, and a few others†, that this displacement of the organ may depend upon other causes than violent traction of the cord during an unusually relaxed condition of the uterus. In this instance there was no inordinate force employed in bringing away the placenta, and the severe pain which followed some time after its removal, with the firm condition of the body of the uterus, would tend to prove that there was an active and contracted, rather than a relaxed state of the organ. To nothing more aptly could the inverted portion of the uterus be compared than to a large caoutchouc hydrocele bottle,—supposing its parietes to be rather thicker and firmer than usual. Although the fundus and body of the organ were firm and contracted, the os and cervix were extremely relaxed: hence the facility with which the former parts were protruded under the irregular contraction of the organ.

There appears to be some discrepancy between many of our obstetric writers on the cause of this inversion, as well as on other points connected with it. Dr. Hopkins states that it may be brought on, or commenced, "1st by violence used in pulling the funis; 2nd. by withdrawing the hand from the uterus with the placenta before it was perfectly separated; or 3rd, by the shortness of the funis. If the inversion ensued from too great a degree of force in its extension, it may be completed by the action of the uterus; and, if by the shortness of the cord, it may be effected by a small effort in pulling*." Mr. Newnham writes, "the most frequent cause of inversion of the uterus is the imprudent management of the placenta, and rude attempts to hasten its expulsion, by pulling at the cord; but this accident may likewise be occasioned when the patient is encouraged to make vehement voluntary efforts to bear down, at the moment when the fœtus is about to be pushed into the world; it may be produced by the child being suddenly born, while the woman is in an erect position, and consequently the excessive capacity of the pelvis will be a predisposing cause of the disease: and it may arise from carelessness in the management of the delivery, when the funis is either preternaturally short, or is rendered so by its being coiled round other parts of the body. These causes will all operate more powerfully in proportion as the uterus may be in a torpid or atonic state†". According to Dr. Burns, "Inversion in a great majority of instances depends upon the midwife endeavouring to extract the placenta by pulling the cord‡." The same author asserts that it may happen if the child be allowed to be rapidly expelled, if the cord be short or entangled about the child, or from sudden pressure of part of the intestines on the fundus uteri. In the London Practice of Midwifery the only cause assigned is "pulling at the cord," and an ignorant midwife is stated "like most midwives" to have pulled "at the navel-string as she would at a bell-rope§."

Dr. Conquest traces it "almost always to the employment of an immoderate degree of force in withdrawing the placenta, before the uterus has con-

* Clinical Midwifery, page 206.

† Dublin Journal of Medical Science, 1837; and Essays on various subjects connected with Midwifery.

* Accoucheur's Vade Mecum. 7th Edit. Vol. 2. p. 111.

† An Essay on the Symptoms, Causes, and Treatment of Inversio Uteri, p. 5.

‡ The Principles of Midwifery, 6th Edit. p. 521.

§ London Practice of Midwifery, 6th Edit. Edited by Dr. Jewel, pp. 310, 311.

tracted on the mass. It can scarcely happen to a cautious practitioner, who, instead of hastily extracting the placenta, exclusively aims at securing its detachment and expulsion by exciting the uterus to its secondary contractions, and who never permits the mass to slip out of the vagina, without ascertaining by one or two fingers of the left hand, that, as it passes, it does not drag the inverted uterus with it*;" and in two or three other places, treating of the management of the placenta, and of hæmorrhage, he alludes to inversion as if referrible in most cases to mismanagement during a relaxed state of the organ, (see pages 70, 71, 76, and 166.)

"Inversion of the uterus," says Dr. Lee, "is frequently, if not invariably, the consequence of pulling at the umbilical cord, to extract the placenta immediately after the birth of the child, before the uterus has had time to contract, and while the placenta is still adherent†." By Dr. F. H. Ramsbotham it is classed amongst the "Accidents likely to happen on attempts to remove the placenta from the uterus, by pulling at the funis," and he remarks that it "may generally be looked upon as the consequence of improper treatment‡." Dr. Campbell does not hesitate to ascribe it "to mismanagement in the removal of the placenta, and its rare occurrence in the present day, that this duty is now better understood:" further on he adds, "displacement has happened, however, in some instances spontaneously, and the uterus seemed to be impelled per vaginam, with great force and rapidity§."

On the other hand, it may be inferred from the following extract that Dr. Denman did not regard it as solely or so frequently attributable to traction of the cord, as his predecessors and contemporaries. "With respect to the causes of the inversion, it has generally been attributed solely to the force used in pulling by the funis, in order to bring away a retained placenta. But there is reason to believe, that the uterus has been inverted, when, on account of a hæmorrhage, or some other urgent symptom, the hand has been introduced within its cavity while in a collapsed or wholly uncontracted state, and the placenta being withdrawn before it was perfectly loosened, the fundus of the uterus has unexpectedly followed, and a complete inversion been occasioned. I have also been assured that in some cases there has been a spontaneous inversion; that the accident happened, at least when no force, or none capable of producing the effect, had been used; and then it was imputed to the shortness of the funis, giving the disposition before the birth of the child; or to some untoward action of the uterus. But with this assurance, or explanation, I do not feel quite satisfied, because degrees of force must always be vaguely estimated; though if a disposition to an inversion be first given by the force used in pulling by the funis, it may be completed by the action of the uterus; or if the least possible degree of inversion were given by the shortened funis, it might certainly be completed by a very slight additional force in pulling by the funis, or by the mere weight of the placenta.

Ruysch, whose animadversions on the conduct of midwives are sufficiently severe, especially with respect to the hasty or violent methods of extracting the placenta, to which only he attributes the inversion of the uterus, afterwards acknowledges that the accident may, and did happen in his own practice, when no violence was used. His words are very striking: "Quamvis hoc malum oriatur nonnunquam obstetricibus minus expertis, funiculum umbilicalem plus quam par est attrahentibus, aliquando tamen ortum ducit a conatibus post partum remanentibus". In the cases, however, to which Ruysch alludes, it seems probable that there was some preceding partial inversion, and this was completed by the subsequent action of the uterus*." Dr. Waller in his note to this chapter writes, "Some persons have doubted the possibility of a spontaneous inversion of the uterus ever having taken place, and the editor confesses that he himself was formerly one of this number, but a case related to him by his friend Dr. Williams, of Guildford Street, has

* Outlines of Midwifery, 6th Edit. p. 191.

† Lectures on Midwifery, Medical Gazette, Aug. 4, 1843.

‡ The Principles and Practice of Obstetric Medicine and Surgery, p. 540.

§ Introduction to the Study and Practice of Midwifery, By Drs. W. and A. D. Campbell. 2nd Edit. p. 402.

* Introduction to the Practice of Midwifery, 7th Edit. edited by Dr. Waller. p. 421.

quite convinced him that such an occurrence occasionally takes place" (p. 424). "It has been supposed," writes Dr. Merriman, "that the exploded practice of dragging at the funis, to extract the placenta immediately after the birth of the child, was the principal cause of this misfortune; but I have known the accident happen when the hand of the operator was introduced for the purpose of effecting the separation; and there can be no doubt that a spontaneous inversion has sometimes occurred*."

Dr. Radford has brought together a greater number of facts, and stronger arguments, than any other obstetric author that the writer is aware of, to prove that inversion of the uterus is not so frequently the result of mismanagement as has too generally been considered, and to make good his position that it depends "upon a power inherent in the uterus;" that, in fact, the fundus and body of this organ, "so far from being in a state of collapse or relaxation, are really in a state of unnatural excitement and action," accompanied with a yielding and relaxed condition of the os uteri.

With regard to its frequency, Dr. Radford remarks, "It is happily one of those misfortunes which does not so very often take place; although the writer is inclined to think much more frequently than is generally admitted†. The reason of this concealment is clear, if it is considered what opinion is entertained of the practitioner who has been so unfortunate as to meet with such an event; there is no occurrence which throws more odium upon him, although generally very undeservedly. This feeling paralyzes the energies of the surgeon, and concealment is adopted to shield himself from this unjust imputation‡." Again, "This accident has been attributed to causes purely mechanical, the uterus being unresisting, and passively obedient to their influence. The practice of pulling too early and violently at the funis, after the expulsion of the child, before the uterus has contracted so as to detach and expel the placenta, has been generally considered as the cause of inversion. But we know that the accident happens before any force has been applied to the funis*. In Case IV. the descent was so rapid and forcible through the pelvis and os externum that it would have been quite impossible to resist the unnatural action by which the organ was carried down†. It has occurred, when the patient had been delivered of a dead child, the funis so putrid as to break with a very slight effort‡. It has been found before the cord was separated, and the child given to the nurse§. In the practice of Ruysch this circumstance took place after he had extracted a dead child, &c.‖ These circumstances show that there is a power inherent in the uterus to become inverted. The pulling of the funis is so common a practice amongst our midwives, and done without the least consideration of the condition of the uterus, that if it was so frequent a cause as is usually stated, inversion, instead of being one of the most rare, would be the most common accident in midwifery. Some writers have thought that a short funis is a frequent cause of inversion; whilst others think, in order to act, it must be inserted in the centre of the placenta, and that this mass must be attached to the fundus uteri¶. Now it is evident, if brevity of the cord is capable of producing so serious an accident, these peculiarities will greatly add to its influence. But amongst the published cases of inversion, there is, so far as the writer knows, but one where there this shortness existed**. Inversion often occurs without diminished length in the cord: whilst, on the contrary, children are frequently born where it is very short, and yet no such event happens††. The funis has

* A Synopsis of the various kinds of Difficult Parturition, 2nd Edit. p. 157.

"† Dr King is of the same opinion. Mr. Mackenzie found two or three instances in subjects brought into the dissecting-room. Mr. Windsor, Med. Chir. Trans. vol. ii. Dr. Ramsbotham, Prac. Observations, Part i. p. 137."

‡ Essays on various subjects connected with Midwifery. Inversion of the Uterus, p. 1.

"* Vide cases already cited. Also Dr. Albers Duncan's Annals of Medicine, Vol. v. p. 390; Mr. Dickenson's case, Med. Gazette, No. 372; Mr. Windsor, Med. Chir. Trans. Vol. x. p. 359; Dr. Dewees' cases, Essays on various Subjects connected with Midwifery."

"† Vide Smith, Med. and Phys. Journal, Vol. vi. p. 503."

"‡ Brown, Memoirs of London Medical Society, Vol. v. p. 292."

"§ Welsh, Med. and Phys. Journal, Vol. 5. p. 451."

"‖ Observation, Anatom. Chirurg. Obs. x. p. 13. Translation, p. 34"

"¶ Gardien."

"** Dr. King's case. Several coils of the funis were round the neck of the child, and it was twisted round one arm. Glasgow Journal, vol. 1. p. 17."

"†† The inquiries and deductions of the writer's

been ruptured*, and the placenta disrupted†, and yet the uterus was not inverted.

That the uterus, previous to inversion, is in a state of extreme relaxation, exhaustion, or collapse, and that it offers no resistance to any force applied through the funis, is contrary to the opinion of Dr. Radford, as founded upon an analysis of the published cases, and those related in his Essay. In three of his six cases "the protrusion was forcible, and attended with a strong bearing down pain" (page 13). These facts, with other circumstances, such as that "the fundus and body must at least be so contracted as to represent a body not larger than the size of a child's head," (page 14) in order to admit of its passage through the brim of the pelvis, tend to prove that the uterus is not in a state of relaxation. "It appears to the writer," continues Dr. Radford, "that the uterine pain, diminution of bulk, firm, resisting feel, sudden formation, and rapid protrusion, warrant him in the deduction, that the fundus and body of the uterus, so far from being in a state of collapse or relaxation, are really in a state of unnatural excitement and action. But this is not the case with the os uteri: on the contrary, it is soft and yielding, as we find that it offers no resistance to the coming down of the tumor, whose protrusion is forcible and rapid. If these statements be true, it is evident that the fundus and os uteri are in directly opposite conditions; the former is in a state of violent contraction, the latter in a state of relaxation; and that the relative difference in the two parts of the organ is indispensably necessary to exist where inversion occurs" (page 15). "In the cases of inversion which have been detailed, we find numerous sources of irritation mentioned which are equal to the production of irregular contraction. Hastening the labour‡; artificial rupture of the membranes§; delivery of the patient in a sitting position*; rapid labour†; mental alarm and agitation‡; hasty extraction of the placenta§; erect position during delivery‖; leaning forwards over the bed during labour¶; premature giving way of the membranes**; tedious labour††; pulling at the funis‡‡; to these causes many more might be added, but these are sufficient to show that great mismanagement has existed. They are causes which are capable of hastening or interrupting the parturient process. Many of them are put in force to increase the power of the pains during labour; they have a direct tendency to effect a too rapid, premature, dilatation of the os uteri, and not a less tendency to produce spasmodic and irregular contraction in the womb," (page 18.) "From what has been stated, it may be concluded, that quick labour, whether natural or artificial, a disturbance of this process in any of its stages, or any of those circumstances which produce irregular contraction of the uterus are, singly or combined, the causes of inversion" (page 19.)

"It has been very much the habit," observes Dr. Rigby, in his recent work, "to attribute inversion almost solely to these latter causes," (improper attempts to extract the placenta before the uterus was sufficiently contracted, shortness and twisting of the cord, and delivery in the erect position, with violent jerking or rupture of the cord), "and that, except where it takes place from the shortness of the cord, or the sudden expulsion of the child whilst the mother is in the erect posture, it must almost necessarily be a result of improper pulling at the cord on the part of the practitioner: the cases on record, however, go to prove that in by far the majority of instances no force of this kind had been applied to the fundus; and in those instances where the child has been dashed upon the floor and the cord broken (some six or

respected friend, Dr. Churchill, are strong evidence of the truth of the above statement; and he is glad to have his opinion corroborated by so respectable a practitioner."

"* Med. and Phys. Journal, Vol. liv. p. 205. Giffard's cases, Nos. 92, 127, 175, 194, 199. Perfect's cases, Nos. 109, 132."

"† Ramsbotham, Practical Observations, Part I. Cases, Nos. 28, 31, 32, 33, 34."

"‡ Loffler, Medical and Physical Journal, Vol. xi. p. 207."

"§ Welsh, ib. Vol. v. p. 450."

"* Charles White's Treatise, &c. p. 429, also case iv."

"† Dr. Albers Duncan's Annals of Medicine, Vol. v. p. 391; Dr. Ramsbotham's cases; Dr. Dewees' cases, 1, 3."

"‡ Smith, Medical and Physical Journal, Vol. vi. p. 503."

"§ Dr. Hamilton, Medical Commun. Vol. xvi. p. 616; Lamotte."

"‖ Dr. Cleghorn, Med. Commun. Vol. ii."

"¶ Case ii."

"** Dr. Dewees' 2nd. Dr. King."

"†† Cases iv. and v.; Dr. Belcombe; Dr. Perfect's cases, 71, and 72."

"‡‡ Most Systematic Writers."

seven of which have, at different times, occurred under our notice) the fundus has not once been pulled down, although the force applied to it must have been very considerable, since the very cord which had thus given way to the weight of the child, resisted afterwards, on more than one occasion, a considerable effort which we made to break it."*

It would appear that undue stress has been laid, by most writers on midwifery, upon immoderate pulling at the cord as a cause of inversion of the uterus; and although, as Dr. Rigby judiciously observes, it is not the less important to recommend caution, especially to young beginners, against pulling at the cord with too much force, in their hurry to bring the placenta away, it is to be feared that its spontaneous occurrence is thereby, in some cases, overlooked, and that the most disastrous effects are the result; such as a speedily fatal termination, or the establishment of a permanent and irremediable inversion, followed by a miserable existence for the remainder of the poor patient's life. It is also reasonable to infer that the prominence which has been given to this cause has led to the suppression† of cases which had really come on spontaneously, the publication of all the details of which might have contributed to more unanimous views as to the causes and other facts connected with the disease.

That immoderate force in removing the placenta may produce inversion of the uterus, there can be no doubt, but if this were the most frequent cause the accident would be of more common occurrence in the practice of midwives*, many of whom, particularly in the country villages, are notoriously ignorant; and such cases would consequently not so rarely come under the cognizance of the medical practitioner.

On looking over the cases which have been published, I have remarked that in many of them the inversion has not taken place immediately after, or simultaneously with, the expulsion of the placenta, and that in many of them the accident has not been recognised until some hours have elapsed, which would be inconsistent with the fact of its being caused solely by pulling at the cord. In my patient every thing was proceeding most naturally until the severe pain was felt (an unusual occurrence in primiparæ), indicative of powerful contraction of the uterus, which took place about twenty minutes after the expulsion of the placenta.

It appears to me, that the uterus, after its contents have been expelled, or with the placenta retained, may be in a state of inertia; that during this condition of the organ, and if the placenta has been expelled, blood may be poured into its cavity from the patent vessels; that irregular contractile efforts may occur to rid itself of the coagula, or of the placenta, if retained; the fundus and body, more particularly the former, being active, and the os and cervix passive, and that thus may the organ become inverted. After the placenta has been expelled, the uterus may contract, and present the firm, hard, and comparatively small tumor above the pubes, as in the case of Mrs. C., and again becoming relaxed, take upon itself an irregular contraction, which may terminate in its inversion.

The possibility of inversion of the uterus being produced, except by pulling at the funis, or by pressure from above, has been denied by Dr. Lee

* A System of Midwifery, p. 219. A few weeks ago, I was called to a person who had just been confined; the cord had been ruptured about three inches from the navel, and the placenta was still adhering to the uterus with the remainder of the cord attached to it, only five inches in length.

Some months ago a case came under my observation in which an unusually large condition of the funis, from an immense accumulation of gelatinous fluid within its cells, rendered the labour tedious and difficult in consequence of its impaction between the head and the brim of the pelvis. The nature of the case was utterly obscure, until, after severe and protracted suffering, the child was born. It is my intention to transcribe it for publication from my case-book (with a sketch of the dropsical cord), but it is merely alluded to in this place because, from the shortening of the cord, owing to the extreme distension of its coats, it bears upon the point under consideration, inasmuch as no inversion of the uterus was produced.

† The reader will not be surprised at such suppression, on referring to the excellent lectures by Dr. Blundell. "We sometimes find, in cases especially which have been mismanaged, that, together with the vagina, the womb is turned inside out" (Lancet, 1827-8, Vol. ii. p 545). "Should the accident occur to yourselves, which, however, it can scarcely ever do, provided you adhere rigidly to that management of the placenta before prescribed" (Ibid. p. 546). "Remember, therefore, should inversion occur to you (which I hope it will not, for its occurrence is not creditable.")—Ibid. p. 547.

* I have been sent for on three occasions where the midwife had completely detached the funis from the adhering placenta, and in no case did the cord, or placental mass, appear morbidly attenuated or softened: in one case the hæmorrhage from this cause proved fatal.

(Lecture in the MEDICAL GAZETTE, Aug. 4, 1843); but, with due deference to the opinions of so high an authority, it is evident to me that contraction of the fundus and upper part of the body of the uterus, without a corresponding contraction, and consequent resistance, of the cervix and os uteri, may produce the effect, even without any other collateral effort: but if we take into consideration the action of the abdominal muscles in the bearing down which has sometimes followed, there can be no difficulty in accounting for the inversion. The arrangement of the moving fibres of the uterus is still involved in obscurity, but there is probably nothing so peculiar in that arrangement as to prevent the upper part of the organ, under a contracted condition, from being thrust within the parietes of the lower relaxed portion, somewhat in the manner one would suppose introsusception of the intestine to occur.* At any rate, for the reasons which have been assigned, and in the absence of arguments to the contrary founded upon a knowledge of the precise anatomical arrangement of the uterine fibres, it is fair to conclude that spontaneous inversion may occur. The indefatigable and distinguished physician who has so clearly unravelled the beautiful and intricate arrangement of the uterine nerves, may yet direct his scalpel to the elucidation of that part of the uterine system which has for so long a time puzzled many of our most profound anatomists, and which is analogous, in its effects at least, to the general muscular system of the animal frame†.

* Irregular contraction of the muscular fibres of the uterus may occur to constitute the hour-glass contraction, when the circular fibres are affected with spasm about the centre of the organ, or even in its upper half. This has been doubted by Baudelocque, Douglas, Schmitt, and other high authorities (see Rigby's System of Midwifery), who consider that the stricture is formed by the os or cervix uteri. I have satisfied myself, in two cases which have come under my care, that the contracted portion of the uterus has been perfectly distinct from either the os or cervix uteri, and that they were instances of genuine hour-glass contraction. With the doubts referred to vividly upon my mind, I made a most careful and searching examination in both cases.

† See Dr. Lee's Papers in the Philosophical Transactions, and Lectures in the MED. GAZ.

[To be continued.]

RECORD OF CASES.

By THOMAS MAYO, M.D. F.R.S.
Physician to the Infirmary of St. Marylebone.

(For the Medical Gazette.)

[Continued from p. 793 of last vol.]

THE dependence of apoplexy upon disease in remote organs is a subject of much interest. Its occurrence in this kind of connection with pneumonia, is illustrated in the following cases:—

A. B. a large, full, healthy-looking man, aged 54, in the spring of 1843, was brought into Carroll's ward of the Marylebone Infirmary in a state of insensibility, and died almost immediately. It appeared that he had been employed in the workhouse in bodily labour, and seemed in good health up to the moment of his seizure with apoplexy, that morning. He was described as having the day before eaten an enormous dinner of pork, &c. He went to bed apparently well.

Autopsy.—The membranes of the brain were healthy, but the convolutions flattened. A very large coagulum, with some fluid blood, distended the lateral ventricles. The basilar artery was of great size; slight appearances of ossification in many arteries of the brain. The aorta was of great size, but healthy; the heart normal. The right lung almost uniformly in a state of red hepatization; portions from every part of it sinking in water. The left lung gorged with blood, but perfectly crepitant. The stomach very large; no solid contents in it: its walls thin: its surface having a colour exactly similar to that of coffee-ground vomiting. The other viscera healthy.

In a patient of one of my colleagues, who died on the 15th of March, I observed the following appearances on examination the next day. In the upper and anterior part of the right lateral portion of the brain the first slice removed from it disclosed a very large sanguineous effusion, connected with and filling the right ventricle, and a part of the left. Between it and the cortical substance to which it was nearly subjacent, the small intervening portion of medullary substance was softened; and in this softened substance was a large branch of an artery. Whether the patent mouth of this artery was the

breach through which the blood had flowed, or whether it had been divided by the knife, I cannot say. It grated under pressure, and contained small osseous points.

The heart was normal, as were the aortic valves. In the arch of the aorta were small osseous deposits.

The right lung was uniformly and firmly hepatised, of a deep red colour, all but a portion of the upper lobe, which was emphysematous.

All the other viscera were healthy.

On inquiry, I found that this man, aged 78, of a very muscular frame for that age, had been sent into the infirmary from the workhouse on the morning of the 12th, in a state of imperfect coma, having been apparently well the night before. Except during the last 24 hours of his life, he could be roused so far as to answer questions. It was ascertained that he had been in a state of constipation for many days, and the nurse of the ward told me that he was known to be a very large eater. A scruple of the Pulv. Jalapæ c. Hydrarg. Chlorid. had been given him on coming in, and afterwards a drop of Croton oil. His bowels were then largely relieved, with no mitigation of apoplectic symptoms. He vomited, only in the course of the last day, what appeared to the nurse to have a fæcal character.

In the first of these cases certainly, and in the latter probably, the pneumonia was antecedent to the apoplexy; in both it may be remarked, with nearly equal degrees of confidence, that the pneumonia ran its course with an insidiousness equally important both as regards the subsequent apoplexy, and the course of the pneumonia viewed on its own account.

On the inquiry set on foot in the spring of 1843, as to a presumed mortality of infants and children in the Marylebone Infirmary, I had occasion to notice to the Commissioners the remarkable freedom from pyrexia, and other customary symptoms of inflammation, with which pneumonia invaded children in the infirmary during spring and the preceding winter. A cough occurred, and a slightly quickened respiration, without any dyspnœa or elevation of temperature. If the stethoscope was applied, after the symptoms had existed a few days, extensive large crepitation was generally observed over a lobe of the lungs. If at this time the patient sunk and died, extensive red hepatization, with infiltrated pus, was discovered. If the patient lived longer, or finally escaped, the measures conducive to this end were support and a liberal use of wine. When the supporting system was applied early, the child sometimes recovered, though perhaps the gurgling, crepitation, and dulness, had been extremely marked. The breast was very freely taken, as long as the strength lasted, by infants at the breast. In one case of recovery percussion gave almost the feel of a quaggy and wet substance under the percussed surface. Where the attack lasted long, and terminated fatally, tubercular ulceration was generally found in the upper part of the lungs.

Now it must be observed of this state of hepatization, as of that in the first described cases, that it was apparently induced upon principles distinct from that inflammatory turgescence which we presume to attend upon its production in pneumonia. Neither, in these sets of cases, can this be explained altogether on a hypothesis of debility. Many of the children alluded to were no doubt of a strumous habit. But the two adults first mentioned were each powerful and healthy men; in neither of them was there any tubercular deposit.

It is certainly probable that in these apoplectic cases the cerebral disease was mainly induced by the prior embarrassment of the pulmonary circulation. And this suggests additional grounds of attention to the phenomena of the throax in relation to cerebral disease. But may not some prior condition of the brain tending to congestion have rendered the constitution less sensitive under the invasion of pneumonia, and thus have obscured its symptoms?

A cause of this kind may suggest itself, as accounting for the absence of every form of constitutional and local disturbance, except indeed feverishness, in an attack of pneumonia supervening on enteritis, which Andral describes, Observation 59, Vol. 1. This case he speaks of as "of the highest interest, and calculated to clear up some points of doctrine which he has not time to develope." The enteritis had been

treated successfully by leeches, &c.; its overt symptoms had disappeared. Fever after some days set in again, accompanied nieither by cough, nor dyspnœa, nor expectoration, nor return of the enteritic symptoms. The patient died in four days without any pulmonary symptoms except such as auscultation and percussion developed. The autopsy was as follows, literally translated.

"A part of the lower lobe of the right lung exhibited a mixture of red and grey hepatization: another part of this lobe was red, and being reducible to a pulp by pressure, resembled certain very soft spleens. The rest of the pulmonary parenchyma was sound.

The internal surface of the stomach was white, its mucous membrane of ordinary consistence and thickness. The small intestines presented no visible alteration, till within a foot of the ileo-colic valve. The mucous membrane there was of a brownish colour, as was the cæcum. In the colon there were several white ulcerations, scarcely of the diameter of a pea, the membrane around them white."

Now the case of Eliza Gyon, reported by me in the 541st page of the last volume, illustrates remarkably some effects of intestinal inflammation, presumably, on the functions of the brain, under which the physical symptoms of the fatal disease were entirely masked, as also the moral character of the patient altered. It may be conjectured, though the hypothesis ought to sit lightly, that Andral's attack of pneumonia was rendered "latente" by this kind of influence from the preexisting and accompanying ulceration of the mucous membrane.

In all these cases of pneumonia it may be observed that we are barred of that manner of accounting for phenomena, which the hypothesis of typhoid pneumonia might be supposed to supply. The view adopted by Dr. Williams of this latter disorder, and judiciously described by him in the Library of Medicine, assigns to it a congestive rather than an inflammatory character. "Its products," he observes, "are imperfect and irregular, and neither by the formation of pus nor by the free effusion of plastic lymph is an inflammatory orgasm manifested." The two first cases in this paper, and those of the children in the Marylebone Infirmary, were cases in which the agglutination into a firmly hepatized state was perfect, and pus freely effused; and in Andral's report we find both "red and grey hepatization." His practice moreover was depletory and antiphlogistic in that attack.

[To be continued.]

CHOLERA IN INDIA.

To the Editor of the Medical Gazette.

Sir,

The communication of Mr. Rankin, of the General Hospital of Calcutta, on the treatment of cholera, brings forcibly to my memory the short experience I had of that disease in India. Entertaining similarity of views on the treatment, I hope I may not occupy your pages unnecessarily in adding my mite to the more extended experience of Mr. Rankin.

During May 1830 the shipping in Bombay Harbour suffered from an aggravated attack of epidemic cholera. I may particularly notice the H. C. S. Berwickshire, which lost 40 men out of a company of 150 in a very few days. The H. C. S. Orwell (in which I served as assistant surgeon) had her share, but to a much less extent; for although we suffered severely from general sickness, we had not more than twelve reported cases of cholera, all of which were treated on the principles advocated by Mr. Rankin; our sheet anchor was the vapour bath, and venesection whilst in the bath, but not until reaction took place, for we always considered it a waste of time to administer any internal medicine. Two cases, one fatal, the other recovering, were then strongly impressed upon my memory, for I regret that no notes were kept, except the regular medical journal of the ship, arising from the onerous duties that devolved upon me in consequence of my colleague being one of the first attacked; but the history of these, and other cases of cholera, treated principally by the vapour bath, are now in the medical archives of the East India Company.

The subject of the first case was the gunner of the ship: on his application we attempted to bleed, but failed, when we immediately put him in the vapour bath, regulating the heat according to his feelings, and in half an hour's time

completely removed his acute sufferings. After reaction (which I believe in a properly regulated bath will never fail to be produced) he was bled, and kept for upwards of an hour in the bath; he was then removed and placed between hot blankets; calomel and opium were administered; the case appeared in every way to go on favourably. A few hours after his removal from the bath, however, we had strong head symptoms. My colleague Mr. Bremner, the surgeon of the ship, remarking "now is the time to open the temporal artery," he left me for two minutes, to procure a lancet for that purpose, but before he returned, the man dropped suddenly in my arms, and died. Never shall I forget the chagrin I felt in losing this my first case of cholera, just when we believed our efforts would be crowned with success. However, encouragement was given us to persevere, and it was not many hours ere an equally severe case presented itself: no time was lost in placing our patient in the bath, and letting in a strong current of hot air, to the almost immediate relief of his suffering; the poor fellow exclaiming "he was in heaven." I may mention in this case I placed Fahrenheit's thermometer on his abdomen, and found it as high as 150°, and that without causing any disagreeable symptom, with the exception of slight scalding of the shins, with which the hot air came in more immediate contact: he was also bled until syncope was produced: similar reaction took place, calomel and opium were administered, with the application of cold to the head, and in a few days complete recovery took place. From the after experience I had of cholera I felt fully convinced that the external application of heat, so as to produce reaction, was the only means that could be depended on in this formidable disease. The question is, whether the application of hot salt bags, hot or vapour baths, ought to have our preference, and I should certainly give it to a well-regulated vapour bath, the heat being more equally diffused, and the patient being capable of bearing heat in this manner at a much higher temperature than by any other application.

In all the medical nosologies we find the disease cholera placed amongst the diseases of the digestive organs, as its name implies; but in my opinion the rice-water stools, the deficiency of the urinary secretion, and the collapsed state of body, are only the effects of a cause which arises from the quantity and quality of the blood sent to the different parts of the body; I therefore should consider it ranked more properly amongst diseases of the circulating system. I would refer to the excellent remarks of Mr. Annesley, who hazards an opinion of the blood not receiving sufficient quantity of oxygen from the atmosphere.

During the epidemic I mention, there was a symptom that occurred at what might be termed the stage of invasion, which I do not remember as being particularly noticed by any author, but which we remarked in every patient that applied to us at this early stage: an uneasiness in the frontal region, with a vacuity of thought, and this was complained of some hours previous to any disorder of the biliary system. I can corroborate, most fully, the observations of Mr. Annesley on the subject of the stage of invasion; our men were fully warned to make early applications for medical advice, and on seeing them at this stage we used the lancet freely, with drastic purges, and, I trust, not without success.

The vapour bath used was one invented and made by my ingenious friend, Mr. Bremner, the surgeon of the ship. But I fear I have engrossed too much of the valuable space of the MEDICAL GAZETTE in giving my "Random Recollections" of this formidable disease.—I am, sir,

Your obedient servant,

GEORGE B. CLARK, M.D.

Member of the Royal Colleges of Surgeons of London and Edinburgh.

Trinity Street, Colchester,
26th March, 1844.

EFFECTS OF OPIUM ON INFANTS.

To the Editor of the Medical Gazette.

SIR,

HAVING, in your number for March 8th ult., read the remarks on the effects of opium on infants, I am induced to send you the following case, which, however, by its favourable termination, has perhaps lessened the medical interest which attaches to it.

Feb. 25th, 1844, about 1 P.M.—Mr. C——'s infant, a fine little girl,

æt. 10 months, having been allowed to play with some pills (Pil. Sapon. c. Opio, gr. v., Ext. Colo. Co gr. vii. in Pil. iv.) which were silvered over, the nurse observed the child making a noise, and as if swallowing something with difficulty: suspected some of the pills were taken. One pill was found in the child's dress, and one in the pill-box, but there were four, and after sweeping the room, and the most careful examination, the other two were not found. I was present within a quarter of an hour; the child was then playing, cheerful, and in perfectly good health; however, from the account of the case, I thought it right to act, although in doubt. The opium swallowed being in the form of pills, and the pills having been made a long time, instead of using the stomach pump I administered immediately half a scruple of the sulphate of zinc dissolved in a very small quantity of warm water; this not producing vomiting in a quarter of an hour, I gave Ant. Pot. Tart. gr. ii., which was repeated every ten minutes to the fourth time. Tickling the posterior fauces with a feather was also had recourse to, with occasional draughts of warm water, but all without avail. About half an hour after the last dose of Tartar Emetic, when almost giving up in despair of causing vomiting, it suddenly occurred, and by the use of warm water was then kept up. The food of the day was returned, and with it some dark substance which proved to be portions of the opium pills; one piece the size of half a pill, the others divided and mixed with the food, having the smell of opium. Pieces of the silver leaf were also found, leaving now no doubt, and from the quantity showing most probably that two pills were swallowed. After the vomiting had subsided, a teaspoonful of castor oil was given, which in the evening acted, and no appearance of the pills in the motion, which was healthy. The child did not appear drowsy; in fact, its parents thought it more lively than usual. Slept comfortably during the night, and was quite well next morning, neither suffering from the opium, nor from the emetic remedies that had been administered.

The only remarks suggested are these: 1st, the large doses of emetics which were given for a time without success: this may be accounted for, doubtless, by the action of the opium on the nerves of the stomach, but yet there was an absence of any other symptom on the nervous system; and 2d, the total absence of any irritation produced either by the zinc or tartar emetic on the mucous membranes afterwards.—I am, sir,

Your obedient servant,

CHARLES TAYLOR, M.R.C.S.

March 28, 1844.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

The Chemical and Physiological Balance of Organic Nature. By M. J. DUMAS and M. J. B. BOUSSINGAULT. 3d edition, pp. xii. and 156, post 8vo. Baillière.

WE have been acquainted for some time with this elegant essay in the original, and are well pleased to meet with it now in an English dress, satisfied that it is singularly well calculated to diffuse correct and pleasing views of the harmony of nature in all her parts, and to raise the mind through every-day pursuits to the contemplation of things higher, holier, than we have the happiness of being at all times brought into contact withal.

Vegetables, animals, man, contain matter in their composition. Whence comes it? what part does it play in their tissues? what becomes of it when death breaks the chain by which its various parts and forms were so closely conjoined?

Such are the questions which our authors ask; the business of their essay is to resolve them; and the two grand resolves of nature—the animal and the vegetable, are placed in the balance, the atmosphere being as it were the medium of connection between them, and weighed one against the other. Vegetables are shown, save in rare circumstances, to constitute apparatuses of reduction; animals to be invariably instruments of combustion. Vegetables reduce carbon, hydrogen, and nitrogen, from carbonic acid, water and oxide of ammonium. Animals, again, exhale carbonic acid, hydrogen in the form of water, and nitrogen in the shape of urea. Vegetables evolve

oxygen, and produce neutral azotized substances; albumen, fibrine, gluten, fatty substances, starch, sugar, and gum. Animals consume oxygen, neutral azotized substances, fatty matters, starch, sugar, and gum. Vegetables still further absorb and fix the light and heat of the sun. Animals produce heat; vegetables derive their elements from the air, the earth, or the water. Vegetables finally transform mineral matters into organic matters; animals turn organic into mineral matters.

"Of all the elements of modern chemistry, organic nature makes use of but three or four; of those vegetable and animal substances which are now multiplied almost to infinity, general physiology requires no more than some ten or twelve species; and all the phenomena of life, so complex in appearance, may be referred, in their essence, to a single general formula.

"We have, in fact, found, by a multitude of results, that an animal, in a chemical point of view, constitutes a true apparatus of combustion, by which carbonaceous matters, burnt incessantly, are returned to the atmosphere in the shape of carbonic acid; in which hydrogen, burnt incessantly, is returned as water; whence, in fine, free azote is ceaselessly exhaled in the breath, and, in the state of oxide of ammonium, is thrown off in the urine. From the animal kingdom, therefore, as a whole, carbonic acid, watery vapour, and azote or oxide of ammonium, are continually escaping.

"We have, on the other hand, found that vegetables, in their natural and healthy state, decompose carbonic acid incessantly, fixing the carbon, and setting free the oxygen; that they decompose water, seizing on its hydrogen, and disengaging its oxygen as before; lastly, that they either abstract azote directly from the air, or take it indirectly from oxide of ammonium or nitric acid; thus acting, in every particular, inversely or in opposition to animals. If the animal kingdom constitute an immense apparatus of combustion, the vegetable kingdom, in its turn, constitutes an immense apparatus of reduction, where carbonic acid decompounded leaves its carbon, water its hydrogen, and oxide of ammonium and nitric acid their ammonium or their azote.

"If animals incessantly produce carbonic acid, water, azote, and oxide of ammonium; vegetables consequently consume, without cease, oxide of ammonium, azote, water, and carbonic acid. What the one gives to the atmosphere, that the other takes from it; so that, surveying these facts from the loftiest point of view, and in connexion with the physics of the globe, it would be imperative on us to say that, in so far as their truly organic elements are concerned, plants and animals are the offspring of the air; that they are but condensed or consolidated air; and that, to form a true and accurate idea of the constitution of the atmosphere at the epochs which preceded the birth of organized beings, it would be necessary to restore to it, by calculation, the whole of the carbonic acid and azote, the elements of which were appropriated by vegetables and animals when they appeared.

"Vegetables and animals, therefore, come from the atmosphere, and return to it again; they are true dependents of the air.

"Vegetables assume from the atmosphere the elements which animals exhale into it; viz. carbon, hydrogen, and azote, or rather carbonic acid, water, and ammonia.

"But how do animals procure the elements which they give to the atmosphere? Let us inquire particularly into this point. Now it is impossible to contemplate, without admiration, the sublime simplicity of the laws of nature here, as every where! Animals always derive their elements primarily from vegetables.

"We have found, in fact, by results beyond the reach of question, that animals do not create any of the truly organic substances, but that they consume or destroy them; that vegetables, on the contrary, habitually create these substances, and that they destroy but few, and this only for particular and determinate ends.

"It is in the vegetable kingdom, therefore, that the great elaboratory of organic life is found; it is there that both vegetable and animal substances are compounded; and they are all alike formed at the cost of the atmosphere.

"From vegetables these substances pass ready-formed into the bodies of

herbivorous animals, which destroy one portion of them, and store up another in their tissues.

"From herbivorous animals they pass ready-formed into the bodies of carnivorous animals, which destroy or lay them up according to their wants.

"Finally, during the life of these animals, or after their death, the organic substances in question return to the atmosphere from whence they originally came, in proportion as they are destroyed.

"Thus is the mysterious circle of organic life upon the surface of the globe completed and maintained! The air contains or engenders the oxidised substances required,—carbonic acid, water, nitric acid, and ammonia. Vegetables, true-reducing apparatus, seize upon the radicals of these, carbon, hydrogen, azote, ammonium; and with them, they fashion all the varieties of organic or organisable matters which they supply to animals. Animals, again, true apparatuses of combustion, reproduce from them carbonic acid, water, oxide of ammonium, and azotic or nitric acid, which return to the air to reproduce the same phenomena to the end of time.

"And if, to this picture, already so striking by its simplicity and grandeur, we add the indubitable part performed bp the solar light, which is alone possessed of power to bring into play this immense, this unparalleled apparatus, constituted by the vegetable kingdom, in which the oxidized products of the atmosphere are subjected to reduction, it is impossible not to be struck with the import of these words of Lavoisier: 'Organisation, sensation, voluntary motion, life, only exist on the surface of the earth and in places exposed to light. It might be said, indeed, that the fable of Prometheus was the expression of a philosophical truth, which had not escaped the penetration of the ancients. Without light, nature were without life and without soul: a beneficent God in shedding light over creation strewed the surface of the earth with organisation, with sensation, and with thought.'

"These words are as true as they are eloquent. If sensation and thought, if the noblest faculties of the soul and the understanding require a material vesture for their manifestation, vegetables are the labourers charged with the task of building it up, and from elements which they derive from the air, and elaborate under the influence of the light which the sun, its inexhaustible fountain, pours in ceaseless floods upon the earth.

"And, as if all in these grand phenomena were destined to be associated with causes which should appear the most remote, we may here observe upon the sources whence the oxide of ammonium and azotic acid, from which vegetables derive a portion of their food, are themselves derived. They are in fact, produced upon the grand scale by the action of those magnificent electric sparks that dart from the storm-cloud, and, furrowing vast fields of air, engender in their course the nitrate of ammonia, which analysis discovers in the thunder-shower. As it is from the mouth of volcanoes, then, whose convulsions so often make the crust of our globe to tremble, that the principal food of plants, carbonic acid, is incessantly poured out; so it is from the atmosphere on fire with lightnings, from the bosom of the tempest, that the second and scarcely less indispensable aliment of plants, nitrate of ammonia, is showered down for their behoof.

"Might it not be said that we have here a remembrancer of that chaos mentioned in the Bible, of those periods of tumult and disorder which preceded the appearance of order and organisation upon the earth?

"For, scarcely are carbonic acid and nitrate of ammonia formed, than a calmer, though not less energetic force, begins to act upon them for new purposes: this force is *light*. By the agency of light, carbonic acid yields up its carbon, water its hydrogen, nitrate of ammonia its nitrogen. These elements combine, organic matters are formed, and the earth is clothed with verdure.

"The atmosphere presents itself to us as including the primary materials of all organisation. Volcanoes and thunder-storms meet us as the laboratories in which are compounded the carbonic acid and nitrate of ammonia which life requires for its manifestation and extension.

"Light arrives, and with the concurrence of carbonic acid and nitrate of ammonia, the vegetable world, the grand producer of organic matter, is developed.

"Then come animals, consumers of

matter, and producers of heat and of force, true instruments of combustion. It is in them, unquestionably, that organised matter acquires what may be called its highest expression. But it is not without detriment to itself that it becomes the instrument of sensation and of thought. In this new capacity organised matter is burnt; and in giving out the heat or electricity which constitutes and is a measure of our force, it is destroyed, and returned to the atmosphere from whence it had originally come, whilst its caloric is radiated into space, and goes to supply that which vegetables had absorbed and fixed.

"Thus all that the atmosphere yields to plants, plants yield to animals, animals restore to the air. Eternal round, in which the inanimate is quickened and life appears, but in which matter merely changes its place and its form!"

But we have quoted enough from this delightful work to show its bearing and its style; we invite our readers to read it as a whole, nowise doubting that they will then be disposed to esteem it as highly as we do ourselves.

MEDICAL GAZETTE.

Friday, April 5, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO

OUR NEW VOLUME.

In commencing another volume of the London Medical Gazette, we have pleasure in addressing a few words to our contributors in particular, to our friends and readers in general. *Semper idem* might be our motto, so uniform seems our series upon the shelves before us—in form, at least, we have not sensibly altered since we came into life, it is now some sixteen years ago. And when we turn to our pages we believe that we see the same spirit pervading them at the present hour which actuated them at first; for it has still been our aim, as it was our primary purpose, to serve as the organ of the *science* and the *practice*, rather than of the *politics* of our profession. Not that we have entirely neglected medical politics either; freedom of opinion, and some means for the expression of that opinion, are so essentially parts of our existence in this atmosphere of Britain, that it was impossible for us to pass by without comment such events as were interesting to us as a body, numerous, respectable, and silently influential through our intellect and our acquirements. Medical politics have always been freely, though temperately, discussed in the pages of the Medical Gazette; for we have neither been hurried into revolutionary extremes by recklessness and passion, nor yet have we been indifferent to the progress of events, or held at all times, that "that which is, is best." The frame of universal nature is upheld by change, and society is never precisely that to-day which it was yesterday; nor will it be to-morrow that which it is to-day: old forms must be replaced by new, suited to the varying circumstances in which every successive generation of man is placed.

Our main object, however, shall be, as heretofore, to provide for our readers intellectual fare of the best. In our last number we hinted at certain negociations that were in progress with more than one distinguished professor, both at home and abroad, abstracts or more extended reports of whose prelections it is our purpose to give. We also intend to take in a wider circle than hitherto of the medical periodicals of France and Germany, from whence to glean information, new, interesting, and important to our readers. We shall also do our best to give a regular bibliographical record of all the publications on medicine and the collateral sciences which appear on the Continent as well as in this country.

Whilst, therefore, we solicit the

unabated support of old, and the aid of new contributors, we promise, for our own part, to do all in our power to uphold the honour, and to extend the usefulness, of the medical profession.

GRADES IN PROFESSIONS.

Do professions truly admit of grades among their members? We apprehend, though custom may have sanctioned them, that in reason they do not. Grade implies relative superiority and inferiority determined on grounds other than that natural disparity between man and man which is connected with original endowment. There is, it is true, work of different kinds to be done; and therefore have we different branches in professions generally: in the law, barristers, solicitors, notaries; in medicine, physicians, surgeons, apothecaries. But grade in each class is scarcely to be conceived. Barristers are all called upon a footing of perfect equality, and it is left for the best man to get foremost in the race. The idea of grade among our highest legal advisers, other than that which is achieved by abilities or standing, even appears absurd: should we be content to have for our legal guides one set of men less thoroughly informed on all knotty points of the law than another? Would it be reasonable that among barristers there should be one grade where we might hope to resolve us of our doubts and learn our rights according to statute and immemorial usage, and another grade where any such resolution, any such information as that we were in quest of, was not to be expected? Yet all this would be implied in the existence of gentlemen of different grades practising at the bar.

The medical profession has not, like the law, excluded grades, among the different classes of its practitioners. Among the physicians, grades seem to have existed from the establishment of their College, and doubtless they also obtained long before that event. The surgeons, too, in former times, must have had grades; one set appear to have confined themselves to surgery, properly so called; another associated what are now held to be the humble offices of the barber with their higher duties. The surgeons, however, by and by became ashamed of their alliance with the barbers, procured a statute of separate incorporation, and fled from the common hall, leaving their old associates in possession of all the records, goods and chattels: they fairly went off empty-handed. Surgery, however, now freed from menial offices, made rapid strides in improvement; but from about the middle of the last century up to the present time without distinction in regard to grade, among the members of her Corporation first, of her Royal College in London next.

The College of Physicians have, for the last quarter of a century in particular, been gradually relaxing in their distinctions as to grade—the difference was a perpetual source of contention between men, mostly of equally liberal education and of like professional knowledge, who met everywhere save at the College on a footing of perfect equality. By and by the distinction between Fellow and Licentiate must have ceased of itself to be.

The College of Surgeons, strangely enough, seem disposed to adopt that which the College of Physicians have been abandoning—a distinction into grades. Will not this distinction, however, be found an apple of discord in the surgeon's, as it proved to be so long in the physician's branch of the profession? Will it not seem to sanction a difference of acquirement, a less and a greater amount of education as

admissible in circumstances where the *greatest* is never more than enough? We doubt, we fear for the ultimate effects of a distinction into a higher and a lower grade in surgery. Already the general practitioner is suspicious, and even complaining that the College of Physicians and the College of Surgeons are in league to degrade him. But then it is stated on the best authority, that the Council of the old College of Surgeons in London were left no choice —they must needs make a change; the step was forced upon them by the Minister. They have, of course, recommended an arrangement which they believe will not merely be productive of the least mischief, but which will do most to maintain or exalt the character of the profession. That this may be its effect is our most fervent prayer.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, March 26, 1844.

THE PRESIDENT IN THE CHAIR.

Notes of a case of Vitiligo Infantilis. By GEORGE GREGORY, M.D. Physician of the Small-pox and Vaccination Hospitals.

THE case was that of a child 13 months old. At the age of 4 months the mother first noticed about its neck some smooth, white, shining elevations, which continued to spread. At present these tubercular elevations, varying in size from that of a pea to a small wafer, and of irregular form, occupy the neck, back, and a large portion of the abdomen. A few of these terminate by tubercular vesicles on the summit of the tubercle, and a small scab succeeds. The child is in good general health, is at present cutting its teeth, and the process of dentition goes on favourably. The author observes, that it cannot be doubted but that the vitiliginous state of the surface is connected with the process of dentition. Like strophulus, and other cutaneous diseases, it serves a very useful purpose in the infantile economy. The action of vessels which is here harmlessly expended upon the surface, might if transposed to an internal organ lead to serious results. While dentition continues, he considers it would be impossible to put a sudden check to the disease, and unwise to do so, if it were possible.

The infant itself was shown to the Fellows of the Society, and also a very beautiful and correct wax model, illustrating the present appearance of the disease.

On Dislocations of the Astragalus, with the lower ends of the Tibia and Fibula inwards, illustrated by cases. By HENRY HANCOCK, Esq., Surgeon to the Charing-Cross Hospital.

THE object of this paper is to direct attention to an injury of comparatively rare occurrence — dislocation of the astragalus from the os calcis and scaphoides, the ankle-joint remaining entire. The writer, after alluding to numerous authors who considered that such an accident could not occur, gives an account of the only four cases he has met with in the works of various writers, viz. two in the last edition of Sir A. Cooper's work on Dislocations and Fractures, edited by Mr. B. Cooper; one related by Professor Harrison in the Dublin Journal, Vol. XV., designated "Displacement of the Foot outwards, with Fracture of the Fibula;" and a fourth described by Dupuytren in the Leçons Orales, Vol. I. p. 225, as "a fracture of the fibula with dislocation of the foot inwards." Both these latter titles the author considers erroneous; for it is very doubtful whether, in reality, the astragalus with the lower ends of the tibia and fibula are not the parts displaced; and even if this be not the case, it is only a portion and not the whole of the foot which is dislocated.

The following cases are related by the author.

John Middleditch, a strong healthy man, æt. 24, was admitted into the Charing-Cross Hospital, under the author's care, on the 5th of December, 1840, with an injury to the right ankle, having fallen from the top of one of the vats in a brewery. Four days afterwards, when the swelling was reduced, it was found that the fibula was fractured about three inches above the ankle; the axis of the tibia, instead of falling on the centre of the foot, was thrown inwards and slightly forwards, giving the leg the appearance of being twisted in that direction. The position and direction of the foot were not materially altered, further than by its projecting considerably on its outer side and the toes turning slightly outwards, but its dorsum looked upwards as in the natural condition. Upon carrying the finger along the outer edge from the heel forwards, the anterior extremities of the os calcis, where it unites with the cuboid bone, could be felt distinctly, whilst above there was a considerable cavity instead of the prominence formed by the astragalus and external malleolus. By press-

ing the finger along the dorsum of the foot, a depression could also be distinguished behind the posterior margin of the scaphoid bone. On the inner side of the foot was a prominence corresponding to the internal malleolus, of which the inferior margin could be distinctly defined; and anteriorly and inferiorly, another projection, more prominent, evidently caused by the head of the astragalus, over which the skin was tense, thin, and vesicated. The distance between the internal malleolus and prominence of the os calcis was somewhat greater than in the sound foot, and that between the lower end of the inner malleolus and the sole of the foot diminished above an inch. The ankle-joint was still capable of flexion and extension, and there was very considerable motion in the centre of the foot, corresponding to the calcareo-cuboidal articulation, forming as it were a double joint. It was concluded that the astragalus had been forced from without inwards, off the upper articulating surfaces of the os calcis, carrying with it the lower ends of the tibia and fibula, most probably resting upon the lesser process of the os calcis. The various steps by which reduction was effected are next described.

The integuments over the point of pressure sloughed and separated on the third day after the reduction, leaving the anterior part of the astragalus exposed in its proper position; and this was succeeded by considerable discharge for several days, in the course of which, the internal calcareo-scaphoid ligament sloughed and came away; the astragalus being now no longer restrained in that direction, gradually twisted round upon the calcis, until at length a large portion of its head protruded through the opening in the integuments: this prevented the wound from closing, and as the bone could not be kept in its proper position, but had lost its articular cartilage, and was passing into a state of necrosis, he subsequently, with a small saw, removed its head to the extent of about three-quarters of an inch; after which the wound gradually healed, the parts became consolidated, and the man left the hospital cured in July, just seven months after the accident.

Ten months subsequently the following report was made:—He walks as well as he did before the accident, without stick, or artificial support of any kind. The leg is larger than the opposite one, and there is some thickening around the ankle; but the motion of the joint is good, and the direction of the foot and the situation of the malleoli natural: he is able to do his work, which at times is very heavy, as well as ever he did; his leg being entirely free from pain.

The particulars of the last case are taken from the surgical notes of the late Mr. Howship, and relate to a preparation in the possession of the Royal College of Surgeons. It appears, from the position of the bones, that the same accident had occurred as that described in the former case; but that the dislocation had not been reduced. The author enters into a detailed account of the bones. He then concludes his paper with some observations on the treatment to be pursued in these accidents, giving the opinions of various writers on dislocation of the astragalus.

Mr. Lloyd made some general observations on the subject of the paper, and particularly combated the propriety of amputation, save in extremely rare and desperate circumstances. In the vast majority of instances of dislocation of the astragalus, amputation, as it was not required, so was it altogether inadmissible. In former days, indeed, the operation was even commonly had recourse to; it was one of the old canons of surgery that it should be so; and he quoted the case of a late governor of Newgate, whose leg he had himself, when a young man, dissected, after it had been removed by a couple of old surgeons, where he found the injury so trifling, that he plainly saw the step which had been taken as altogether unnecessary.

Mr. Hancock, who seemed to have mistaken the tendency of Mr. Lloyd's remarks, adopted them as justifying the amputation which he had advocated. Mr. Lloyd explained, and Mr. Hancock was somewhat tart in his reply to the surgeon of St. Bartholomew's.

Mr. Quain directed Mr. Hancock's attention to the true bearing of Mr. Lloyd's remarks, who had, in fact, quoted the amputation which had been performed on the Newgate governor as an instance of antiquated surgery—a practice which certainly would not generally be imitated in the present day.

Mr. Davies related an anecdote of Mr. Abernethy, whose surgery was always largely tempered with humanity, and who never took up the knife without regret:—A London merchant had suffered a dislocation of the astragalus at some considerable distance from London, where, we presume, Mr. Davies was at that time settled in practice. Mr. Davies recognized the nature of the injury, and, aware of the delicate point of surgery he had to deal with, he recommended a consultation. Mr. Abernethy was selected by the patient, and he arrived at Mr. Davies's house about two o'clock in the morning, his whole travelling baggage consisting of a shirt tied up in a pocket-handkerchief. Though he arrived at two o'clock, Mr. Davies, nevertheless, found him up and walking in the garden when he put out his own head between five and six. On seeing the patient, Mr. Abernethy approved the temporizing measures that had been pursued,

totally repudiated amputation, and took his leave. The patient made a good recovery; and if he did not gain a leg that was as supple about the ankle-joint as the other, he still had a limb which was a great improvement upon a wooden one, and that served him to stump about for many a long year afterwards.

Case of Obstruction in the Intestinal Canal, terminating favourably on the ninth day by spontaneous vomiting and evacuation of the intestine's contents. By Sir George Lefevre, M.D.

The subject of the present case was a little girl of twelve years of age, of a very delicate constitution, strongly marked scrofulous disposition, and with very feeble digestive powers, so that she was unable at all times to digest fruit or vegetables. She had been attacked by an epidemic autumnal cholera, which prevailed amongst children in the town where she was residing, and which yielded to the usual mode of treatment. Soon after the termination of this, she was attacked by a disease of an opposite nature, and became obstinately constipated, whilst the stomach rejected every thing that was taken in. Purgatives had been employed in every shape, but without effect; leeches had been applied to the abdomen, which had been fomented freely.

Such was the history of the case, which I received from the two medical men in attendance previous to my seeing her. I saw her on the 27th of August in the afternoon. She was much flushed in the face, had an anxious countenance, a small, quick, compressible pulse, a cold, moist surface, the extremities being colder than natural. She suffered from distension of the abdomen, without complaining of much pain, and she vomited continually a green bilious-looking fluid. As no inflammation was apparent, and as more depletion was not, under the existing circumstances, indicated, soothing measures were employed. The vomiting was the most annoying symptom, from its frequency rather than from any distress which it occasioned, for this dark-green fluid was thrown up without much effort. A small blister was applied to the pit of the stomach, and small doses of prussic acid administered in almond-milk. This treatment seemed to check the vomiting for many hours successively. She passed a tranquil night, but no relief to the bowels had been obtained by stool, and the abdomen was much more swollen. Croton oil was given internally and in clyster during the day, and as warm applications seemed to have no effect, bladders filled with ice were applied all over the belly. The patient was restless and uneasy, continually changing her place in bed, but this arose from distension rather than from any acute pain. About midnight of the 28th, she complained of twisting and severe pain in the bowels, of a colicky nature; there was also more pain upon pressure than previously, and as opiates were administered without benefit, I applied a dozen leeches to the abdomen with immediate relief to the distressing symptoms, which subsided soon afterwards. She got some sleep, and was free from pain when awake. I was obliged to return to London, and did not see her again till the afternoon of the following day. I learned from the physician in attendance that she had passed the day on which I left her pretty well, but that at midnight the same symptoms recurred as on the night previous, and, notwithstanding her state of great exhaustion, he had again applied leeches with benefit. He informed me that the vomiting had returned, and that the matter brought up was evidently from the ileum, and the seat of the stricture seemed to be about the caput cœcum.

There was no question, upon minute examination, that the matter vomited up proceeded from the small bowels. The distension was now very great, respiration was much impeded, and the little patient suffered severely. A long elastic tube was introduced into the rectum, and which was carried into the colon, into which water was forced by a pumping syringe. The operation was productive of great distress to the patient, and was ineffectual as to relief. The night was restless, and the following day the little sufferer seemed much exhausted. The face was colourless, the countenance anxious, the body covered with a cold clammy sweat, and she expressed herself as if about to die. The bed-room having a southern aspect, and the weather being sultry, I desired that she might be removed into a cooler room. She was carried in the arms to bed, and as she was much fatigued by the operation I gave her a glass of Madeira wine, which she drank with pleasure, but hardly had she swallowed it, when she made signs for the basin, lifted herself up in bed, and threw up a dark green fluid to the amount of three pints. She experienced immediate relief, and breathed more freely, and the upper part of the body became more loose and compressible. I gave her some more wine, which remained on her stomach; she had no more nausea. Constant friction was maintained over the abdomen, and injections of vinegar and water were repeated every hour. The first was returned without being accompanied by any solid matter, but had a fœtid smell. The second was accompanied by pieces of flocculent matter of a membranous appearance, and the fluid returned was horribly fœtid, like putrid water in which flesh had been macerated.

She was now enabled to compress the ab-

dominal muscles and make an effort to go to stool, which the previous great distension paralysing the action of the muscles had prevented her from doing. Much of this membranous matter came away after each injection. The smell was most offensive. About four hours after the spontaneous vomiting she asked to go to the chair, when the bowels gave way, and a large quantity of solid excrement was voided. She passed several more stools in the course of the evening, and then slept tranquilly. The following morning I gave her a dose of castor oil, which produced its desired effect without creating nausea, and I left her convalescent. I learned subsequently from my colleagues that she had a good deal of constitutional fever for four or five days. She recovered in a short time, and her digestive powers are now better than previous to her illness. The obstruction was relieved only on the ninth day of the disease.

Sir George Lefevre said that he was moved to submit the history of this case of recovery from a most formidable disease, on account of the rarity of such an occurrence. He thought that many interesting single cases were lost to the profession, from want of such a record as he had made of the one just read. It ought not always to be the object of members of the Medico-Chirurgical Society to write connected treatises, with a special view to their publication in the Transactions.

ON

DIFFERENT FORMS OF GRANULAR DISEASE OF THE KIDNEY.

By J. D. Heaton, M.D.

(For the London Medical Gazette.)

In looking over my reports more carefully, I find three other cases in which the symptom of albuminous urine coexisted with other disease, and which, as occurring in the same hospital, and during the same period, may form a not improper sequel to those already related.

Alexander Norman, age 29, admitted under Dr. Williams, June 24, 1841: a canal boatman, of middle stature, stout, but of clumsy conformation, and strongly marked with signs of the scrofulous diathesis, having scars under the lower jaw, and enlargement of the ends of the fingers and of the ankles and wrists, apparently of a scrofulous character.

His occupation exposes him much to the weather, and he has been for some years subject to a cough, with pain in the chest, and bloody sputa. For the last six months he has had swelled feet; he has had frequent pain in the loins; the urine has generally been high coloured and scanty, though he has had very frequent calls to discharge it; occasionally, however, it has for a time become very copious and pale, again returning to the former state.

Six weeks ago he got wet through, and caught a severe cold; the usual symptoms of inflammatory fever followed, and he had much pain in the right side of the chest, with shortness of breath, cough, and expectoration of sputa streaked with blood.

These symptoms have continued from that time. At the time of his admission the feet are œdematous, the face appears swollen, the urine is high coloured, rather scanty, of a low specific gravity, and strongly albuminous, both as tested by heat and by nitric acid. The pulse is of natural frequency, and quite soft; the tongue covered with a very thin white fur. The physical signs give decided proof of the existence of pneumonia. In the right side of the chest there is extensive dulness of stroke-sound; tubular breath-sound; obscure respiratory murmur. In the left side there are the signs of a small cavity in the apex of the lung, and slight crepitation at the base posterioriy.

For these symptoms he was cupped in the right side; he took a dose of calomel, followed by the ordinary senna draught, and commenced the use of a saline mixture having half a grain of tartar emetic in each dose. Under this treatment he was considerably relieved, and for some time improved gradually. During his stay in the hospital, however, he had two relapses, the chest symptoms becoming more acute, accompanied with some febrile reaction, so as to require, temporarily, more decided antiphlogistic treatment to be repeated

The urinary symptoms always remained much the same. He had occasional though not severe pain in the loins; the œdema was never removed; the urine was strongly albuminous at all times, below the average quantity, varying in specific gravity from 1010 to 1020.

The antimonial mixture was continued throughout his stay in the hospital; Tr. Cantharidis was subsequently added to it, but without any decided effect on the urine.

At the time of his discharge, the dull stroke-sound, and the crepitation at the base of the lungs, were both diminished; but the signs of tubercular congestion and condensation remained under both clavicles, and of a cavity under the left clavicle. The urine was small in quantity, paler than formerly, specific gravity 1007, and contained much albumen. He was discharged at his own request, July 22d, having been in the hospital seven weeks.

John Williams, age 63, admitted under Dr. Williams, June 19, 1841; he is a porter,

of short stature, spare habit, and rather decrepit appearance.

Previously to his becoming an in-patient, he has been under treatment for three weeks as an out-patient, for symptoms of congestion of the brain. At the time of his admission he was in a half comatose state, with considerable jactitation of the limbs; incapable of answering coherently, but with the pupils obedient to light. There was great oppression of the breathing, and a frequent feeble cough; a loud, sonorous, and mucous rhonchus was audible even at some distance from the patient, but at this time no crepitation could be distinguished. There was extensive dulness of stroke-sound over the right chest; the left side was more resonant, and a loud puerile respiration was heard mixed with the rhonchus. There was extensive dulness over the cardiac region; the loud respiratory rhonchus obscured the sounds of the heart in the first place, but a filing murmur was heard, at a subsequent examination, at the apex of the heart, and accompanying the first sound; also, a murmur preceding the second sound; the first being regarded as a sign of regurgitant disease of the mitral, and the second as regurgitant disease of the aortic valve. The pulse frequent, small, and compressible, and presenting very visible movements. The tongue clean, but red and glazy. Considerable œdema of the lower extremities has existed for the last month.

From these symptoms it was very evident that there was great congestion of the lungs, if not inflammation; and this was the chief object of treatment, the cerebral affection being probably secondary. As he was in a very debilitated state, a small bleeding, to the amount of eight ounces, was all that was ventured on; a blister was applied to the chest, and a rather stimulating expectorant mixture prescribed.

On the 21st the breathing was still more oppressed, and the stupor not diminished; the dulness was now greater over the left than the right side, though considerable in both. The breath-sound was mixed with some crepitation in the left back, and the expectoration was rusty and viscid. The blood which had been drawn was buffed and cupped. As it was evident that now, in addition to the congestion, there was some inflammation, he was cupped between the shoulders, and tartar-emetic was given in half-grain doses. It had been suspected that the symptoms might be connected with disease of the kidneys; and the urine was tested to-day, and found to contain albumen.

On the following day the symptoms were improved; the expectoration presented the same character, and there was still much dulness in the left back, but the crepitation was diminished, and the mind was less oppressed. There was still great dyspnœa, and as the expiration was accompanied with a loud wheezing rhonchus, it was expected that there might be some spasmodic contraction of the bronchial tubes, and extract of stramonium was added to mixture to relieve this state.

From this time he improved considerably; the symptoms of cerebral congestion disappeared; the respiration gradually became quite free; the cough continued troublesome, but the expectoration lost its viscidity, was very abundant, and came up readily in large opaque masses. The crepitation was removed, and the dulness of the chest much diminished. The pulse was less frequent and more full; tongue natural. The stramonium was now omitted.

By the beginning of July all the pulmonary symptoms were removed, and the disease of the heart and the pulmonary symptoms alone remained. The antimonial was now omitted, and a tonic mixture, with Tr. Cantharides, was substituted. The albumen gradually disappeared from the urine, which then presented the characters of a simple hydruria, being passed very copiously, (more than double the amount) pale, and of a low sp. gr. The œdema of the feet was very much reduced, though not entirely removed. About the middle of the month he had a slight return of pulmonary congestion, which was soon, however, removed by moderate antiphlogistic treatment. His strength and general health much improved, and he was sufficiently well to be discharged on the 20th of July, the urine retaining the same characters as last described.

It is doubtful, however, how far the cure will prove permanent, as there are still some signs of disease in the lungs, apparently are of a tubercular character. There is also a permanent disease of the heart, and there can be little doubt that the kidneys are the seat of granular degeneration, as indicated not only by the appearance of albumen in the urine, but also by the symptoms pointed out in a previous case, viz. the concurrence of œdema with a permanent increase in the amount of urine. The case very much resembles the one preceding it, except that in the former there was a more decided tubercular disease of the lungs in connection with the other affections, by which probably, in both cases, the low inflammation was excited or kept up; but besides this, the morbid state of the blood resulting from the disease of the kidneys would have an injurious influence in this respect.

John Ansley, aged 56, admitted under Dr. Williams, May 29, 1841. A hostler of middle stature, pale complexion, rather spare habit, and good general health.

About a week before admission, while the

weather was hot, his work required unusual exertion, which produced copious perspiration with much thirst, so that he drank much water, and more than his usual allowance of porter, his ordinary beverage.

He felt much weariness and languor, and shortly afterwards observed the scrotum and penis to become distended with fluid, which was followed by œdema of the legs and feet. The urine was scanty and dark coloured, the bowels constipated.

On admission, there was œdema of the legs, scrotum, and penis; no ascites; urine scanty and high coloured, rather turbid, sp. gr. 1030, very slightly acid, rendered whitish and more turbid by the addition of a small quantity of nitric acid, but becoming clear by increasing the quantity of the test; no increased turbidity by the application of heat; no cough; rather more dulness of stroke sound than natural over the heart; sounds of the heart natural, but rather obscure; no signs of pulmonary disease. Pulse slow and compressible, rather full.

The only treatment adopted was the administration of full doses of bitartrate of potash each morning, which produced copious liquid evacuations. The anasarca subsided in a few days; the urine became paler, more copious, losing all traces of albumen, and being considerably reduced in specific gravity, so as to have only that of 1·010 at the time of his dismissal. He was discharged on the 9th of June, ten days after his admission, apparently quite well.

In this case of acute dropsy, the symptoms seem to show that the kidneys were the organs principally affected. Neither the liver nor the heart afford any symptoms of disease, as the increase of dulness over the heart may be sufficiently explained on the supposition that some effusion had taken place into the pericardium, from the same cause which produced dropsy in other parts. The state of the urine sufficiently showed that the functions of the kidney were deranged, there being probably a congested state, which if it had not been removed might have led to the granular degeneration of those organs. The commencing symptoms were very similar to those presented in the case of Yemm previously related, which proceeded much less favourably; in that case, the exciting cause was exposure of the surface to the cold; in this, it was the chilling effects of large draughts of cold liquid applied to the internal surface of the mucous membrane, causing the blood (suddenly increased in quantity by the same potations), to accumulate in other parts; and this having the more injurious influence as acting on a body previously in a state of free perspiration and fatigued by labour.

The curious circumstance of a precipitate, apparently of albumen, being caused by nitric acid, but not by ebullition, was noticed also in a previous report, and I have likewise observed it subsequently in other instances. The nature of this peculiarity may perhaps be worthy of further inquiry.

The termination of this case is more favourable than that of any other previously reported. Yielding so speedily to treatment, and occurring in a patient who had not before presented any symptoms of disease of the kidneys, the cure may probably be permanent. Had the kidneys taken on an increased action during the operation of the causes which brought on the attack, it might have been entirely avoided; for then the increased amount of fluid introduced into the system might have been safely carried off by those organs, and their tendency to congestion counteracted by their taking on an increased action.

CASE OF

BICEPHALOUS MONSTROSITY;

REMOVAL OF ONE OF THE HEADS BY LIGATURE.

I WAS called, on the 31st of October, for the especial purpose of "cutting off a growth from the head of an infant" born the day before. The mother, who had been confined about eighteen hours, was seated at her spinning wheel; the infant was asleep in its cradle. Examined particularly, the head was found small, the forehead flat and ape-like; the face and all other parts of the body natural.

Upon the occiput, and near the posterior fontanelle, there was a large mass, rather larger than the head of the child, appended by means of a pedicle an inch and a half in diameter. This mass exhibited the several features of the face—a cleft for the eye, but without any eye-ball; an elevation in the seat of the nose, and a fold in the place of the mouth. It had no bony cranium, but was composed of a thick scalp, covered with hair, and having a cartilaginous consistence in some places. On the posterior aspect of this cephalic mole there was a spherical mass of a bright red colour, within which distinct fluctuation was apparent. When this red mass was pressed, the infant gave no indications of suffering. When the false head was touched, it cried. When the pedicle was compressed, there were no signs of pain, but symptoms corresponding to those of apoplexia sanguinea were induced, viz. a stasis in the circulation of the part. This led me to believe that the removal of the part with a ligature might with propriety be attempted. I therefore laid open the soft fluctuating part, by an incision two and a half inches long, and gave vent to about five ounces of clear yellowish serum. On sepa-

rating the edges of the incision with a couple of blunt hooks, I obtained a distinct view into the interior of the supernumerary head: there I saw two normally formed hemispheres, with sharply defined convolutions, parted by a deep sulcus, within which lay a firm falciform process.

I now passed a well-waxed ligature or band around the pedicle, and drew the knot with moderate tightness. The infant gave no indication of suffering; it remained perfectly quiet. The ligature was drawn more firmly, upon which the respiration of the child became quickened and forcible; the pulse more frequent, harder, and smaller; the pupils dilated; and the blood-vessels of the head and face injected. The external jugular vein even became apparent through the layer of fat, of considerable thickness, which covered it. I thought it prudent to take a little blood from this vessel. A third pull upon the band completed the ligature, at which moment a stream of blood burst forth from the puncture of the external jugular vein, and three ounces were allowed to flow. The infant was put to the breast, which it took greedily.

The pseudo-cephalic mass was now of a deep livid colour; and a few minutes after the operation was over, it had become quite cold. Laid open longitudinally through the thick scalp, I came upon a regular dura mater, which, besides the falciform process already mentioned, exhibited an imperfect tentorium cerebelli; beneath this a small dark red medullary mass presented itself, which, however, had no similarity in point of structure with the cerebellum: it was without the convolutions and sulci that were apparent on the cerebral lobes; it had no hemispheres, no subdivisions, no crura, no vermiform process. There was no trace of a medulla oblongata. On raising the cerebral mass, I could, however, make out a kind of pons Varolii—a smooth medullary mass, by which the hemispheres of the brain were connected. I perceived no other commissure. The crura cerebri, as well as all the other parts at the base of the brain, were entirely wanting. During the course of this examination the infant was never interrupted in its business of sucking. The parts were covered with a piece of linen dipped in spirits, and the child laid in its cradle. I remained an hour in the house, only quitting it at the distance of three hours after the operation, at which time the infant was tranquilly asleep, and breathing quietly: there seemed every prospect of a happy issue to the case. On my return next day, however, to see my patient, the parents met me at the door, and informed me, with great satisfaction, that God had not persisted in punishing them with the changeling oaf, for it had just died. Death followed 36 hours after the operation.

The parts were examined anew by Dr. Kersten and M. Loesch. The conclusion was, that the case was one of true, though incomplete bicephalus. The encephalon of the normal head was perfect in all its parts. There was no cerbral connexion between it and the pseudo-cephale; but nervous cords and blood-vessels could be traced into the latter, and processes of the dura mater extended into the connecting pedicle.—Dr. Buehring, in Casper's *Wochenschrift*, No. 1, 1844.

NEW MODE OF PROCEDURE IN

OPERATIONS ON THE ROOT OF THE TONGUE.

Surgeons are all agreed as to the difficulty of removing portions of the base of the tongue; it is almost impossible to succeed with the knife by attacking the organ from the mouth: to say nothing of the narrow space in which the surgeon has to work, the patient is soon choked by the blood that is lost, and there is often nothing for it but to desist, *res infecta*. The chances of better success by attacking the organ from without, between the jaw and the os hyoides, are not much greater: the space is too small, and the parts around the knife are very important. M. Sedillot being required to remove the whole of the left half of the tongue, close down to the epiglottis, on account of a cancerous affection, proceeded in the following manner to this difficult operation.

Having removed the first incisor tooth of the left side, the under lip and the integument of the throat to the level of the os hyoides were incised close to the mesial line, and the soft parts divided; the jaw was next cut through with a fine saw. Two assistants having separated the halves of the lower jaw, the whole of the soft parts connected with the left half were detached down to the level of the velum palati; the tongue was next cleft in the mesial line to its base, and the left diseased portion was removed, the incision circumscribing it at the level of the epiglottts. The whole operation was performed with extreme facility. A ligature was immediately placed upon the lingual artery, and all hæmorrhage ceased on the instant.

The two halves of the jaw were approximated and maintained by means of a small plate of gold, secured by a silken thread to the teeth; the lip was united by means of the twisted suture. The patient was so little distressed by the operation that she remained up for some time removing stains of blood, &c.; she had not once felt any sense of suffocation. On the ninth day the lip had completely reunited, and everything promised

a fortunate issue to the case.—*Comptes Rendus*, No. 8, 1844.

HEMORRHOIDS AND THEIR TREATMENT.

M. Lisfranc, in a clinical lecture on this subject, delivered at the Hópital de la Pitié, directed attention to the extraordinary development of the venous system around the rectum, in contrast with the state of the same system around the vagina, a difference which explains the rapidity with which soothing or simply watery injections are removed from the one passage, and the slowness with which they disappear from the other.

Hemorrhoids, he maintains, have merely many large veins included within them: they do not consist, as is frequently said, of erectile tissue, but merely of a fibrous or dense cellular tissue interlaced with vessels.

It is not always prudent to meddle with hemorrhoids: if the attacks of pain and bleeding be periodical, and not excessively severe, it is better to palliate. The usual French practice, in such cases, is to apply leeches to the anus; but for once that this does good, it many times makes matters worse than they were. M. Lisfranc recommends a bleeding from the arm of ʒxii. or ʒxvi. to begin with, and smaller bleedings—three, four, or six ounces—on the following days. Baths, moreover, are useful, and small cool lavements with a few drops of laudanum. The hemorrhoidal tumors ought to be reduced within the bowel, and kept up by means of a compress and bandage.

The extirpation of hemorrhoids is never an operation devoid of danger; and "persuaded," says M. Lisfranc, "that the surgery is a thousand times the most brilliant which cures without shedding blood, I avoid, as much as possible, the knife and scissors in treating hemorrhoids." Regulated diet, gentle exercise, occasional bloodletting, watering-pot douches to the verge of the anus with water at from 60° to 70° F., and now and then the rapid application of the nitrate of silver, so as to stimulate, not to cauterize, succeed in the majority of cases. When the hemorrhoids are ulcerated, he uses the nitrate of silver more freely, or even the acid nitrate of mercury. When the ulcers have a bad character, and the tumors are indurated, it becomes necessary to remove them. Instead of seizing them with the hooked forceps, and removing them at once by one or two actions of the scissors, as is commonly done, M. Lisfranc seizes the tumor with the forceps, and divides the integument around its base by a couple of semi-lunar superficial incisions. He then removes it very gradually, making small snips; and as soon as a vessel is divided that bleeds somewhat freely, he seizes it, and either ties or twists it. In this way the immediate risk of the operation is lessened; but it is rendered long and painful, and its ulterior consequences — contraction of the orifice of the anus — are not prevented. So far from *Gazette des Hópitaux*, No. 34, 1844.

[Are our neighbours the French not acquainted with the use of the *confection of black pepper* in hemorrhoidal complaints? The treatment of M. Lisfranc would be still more successful did he employ it; and, as he does not love to shed blood, we feel persuaded that he would keep some in his patients' veins with its assistance, which, without it, he is compelled to abstract.—Ed.]

PRODUCTION OF FAT IN THE ANIMAL BODY.

Our readers are probably aware how keenly the question of the production of fat has been debated between the chemist of Giessen and the chemists of Paris; Liebig maintaining that the animal body has a certain power of composing this substance for itself out of hydro-carbonaceous articles of aliment; Dumas and Boussingault insisting that the animal composes nothing; that it merely consumes, and depends on the formative faculties of vegetables for all the fat, as well as all the other proximate principles which are found stored up in its tissues. M. Milne Edwards, however, has lately shown that bees fed on pure honey still go on producing wax, a fact which was announced by Huber many years ago; and M. Persoz, from some late experiments on the fattening of geese, finds himself authorised to conclude—

1st. That in the course of fattening, the goose does not merely assimilate the oil or grease contained in its food (maize), but forms a certain quantity of fat at the expence of the starch or sugar of its aliment, perhaps also at the cost of its own substance, inasmuch as the quantity of grease formed is commonly twice as great as that which previously existed in the maize, and the quantity of fat in a fattened goose is relatively greater than the increase of weight which it shows.

2d. That during the fattening the blood of the goose alters sensibly in its composition, becoming richer in fat, whilst the albumen either disappears, or is so much modified that it no longer coagulates with heat or nitric acid.

3d. That there is a certain ratio between the development of the liver and the quantity of fat produced.—*Comptes Rendus*, No. 7, 1844.

OF MOLIERE AND THE DOCTORS,

AND THE PRICE HE PAID FOR HIS WANT OF FAITH.

Moliere made a butt of physic and physicians. Had he followed the good advice he

received from his medical attendants, however, it would have been better for him,—if longer life be a good. He was recommended to give up playing, inasmuch as the labour was too great for his chest; he was advised to abide by a milk diet, inasmuch as it agreed with him; and he was particularly counselled to live apart from his wife, a heartless coquette, of whom he was nevertheless extremely jealous. He gave no heed to these wise hygienic and moral prescriptions, and died at fifty-one, of an attack of pulmonary apoplexy, which in all human probability might have been warded off for an indefinite length of time, or never have occurred at all.

MODE OF GETTING ON AND OFF IN AMERICA.

In the north and west (of Alabama ?) every village has its old doctor—generally quite a respectable personage, with the regard of the neighbourhood, and the respect of the younger physicians who surround him. A sage of this kind is almost unknown in the south-west. The reason of this difference is three-fold: 1st, a great many physicians die young; 2d, a number go to cotton planting; 3d, not a few marry rich widows. Thus, causes the most opposite conspire to deprive this quarter of the benefits of ripe medical experience. How long the first and second causes may continue to operate we cannot predict, but the third is of a permanent nature; for six or eight times as many husbands as wives die in this region.—The *Western Journal*, Louisville Ky. No. 43.

DISINTERESTEDNESS.

The grape-cure—Die Weintraubenkur, &c. von M. Hirsch.—The author's theory of the good effects of grapes as a principal article of diet would be excellent, *were it proven.* It was certainly a novelty for us to learn, which we do from the author, that those grapes are the *best for the grape-cure which yield the worst wine.* The spot which the author recommends, as of all others the most favourable for making a trial of the grape-cure is —— ——, *his own place of residence.—From Casper's Wochenschrift*, No. 6, 1844.

THE ROYAL ACADEMY OF SCIENCES OF PARIS.

The Royal Academy of Sciences of Paris purpose, as the subject of concurrence for one of their prizes of 1845—

To demonstrate by new and searching studies (*une étude nouvelle et approfondie*), and by descriptions acccompanied with figures, the organs of reproduction of both sexes in the five classes of vertebrate animals, the analogy of the several parts which constitute these organs, the progress of their degradation, and the grounds upon which a general classification of the reproductive system may be founded (*les bases que peut y trouver la classification générale des espèces de ce type*). The memoirs to reach the Secretary of the Institute's office before the 31st December, 1845.—*Comptes Rendus*, No. 9.

SIR BENJAMIN BRODIE.

At the meeting of the Royal Academy of Sciences of Paris, held on the 18th ultimo, Sir Benjamin Brodie was elected a corresponding member of that illustrious body, replacing the late Sir Astley Cooper, and having 39 votes out of 43.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

List of Gentlemen admitted Members, March 29. — N. B. Gill. — H. Bellinghurst.—T. Philbrick.—T. Nott.—N. Kennicott.—G. F. Moreton.—R. J. Scott.—T. Cochrane.—W. Hoare.—H. Hillier.—A. Mason.—C. Roberts.

APOTHECARIES' HALL.

Gentlemen who have received Certificates, March 28.—C. Barrett, Corton, Somerset.

MORTALITY IN THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, March 23.

Dropsy, Cancer, Diseases of Uncertain Seat	100
Diseases of the Brain, Nerves, and Senses	167
Diseases of Lungs and Organs of Respiration	309
Diseases of the Heart and Blood-vessels	18
Diseases of Stomach, Organs of Digestion, &c.	66
Diseases of the Kidneys, &c.	6
Childbed	3
Paramenia	0
Ovarian Dropsy	0
Disease of Uterus, &c.	4
Arthritis	0
Rheumatism	2
Diseases of Joints, &c.	2
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	1
Diseases of Skin, &c.	1
Old Age or Natural Decay	79
Deaths by Violence, Privation, &c.	23
Small Pox	22
Measles	27
Scarlatina	36
Hooping Cough	51
Croup	10
Thrush	4
Diarrhœa	6
Dysentery	1
Cholera	0
Influenza	4
Ague	2
Remittent Fever	2
Typhus	19
Erysipelas	6
Syphilis	0
Hydrophobia	0
Causes not specified	10
Deaths from all Causes	981

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, APRIL 12, 1844.

CLINICAL

LECTURE ON TETANUS.

Delivered at St. Thomas's Hospital,

By Samuel Solly, F.R.S.

(For the London Medical Gazette.)

The subject of tetanus has excited the interest of the profession for many years, and the case which has lately occurred, under my care, in this hospital, is interesting in itself, and affords me a good opportunity of directing your attention to the pathology and treatment of this affection. The disease was known and described by Hippocrates; and, from the severity and intractability of its symptoms, it has been made the subject of frequent mention by many medical writers since. But the most complete treatise on this subject is one written by Mr. Blizard Curling, of the London Hospital, which obtained the Jacksonian prize for 1834. This work will amply repay you for its perusal; it contains a great deal of useful information, and is well written.

Case.—James Bradon, æt. 42, lighterman, George's Ward, under Mr. Green.—Dec. 28th, 1843, 11 o'clock A.M.—States that his general health has always been good: since the age of nineteen he has been subject to frequent and very severe cramps, which generally come on in the night, and which his wife says have sometimes been so severe as to cause him to get up two or three times for the purpose of seeking relief. These attacks occasionally lasted for three-quarters of an hour.

Although in the habit of freely taking spirituous liquors, it appears that he has not indulged to the extent of intoxication.

Last Monday fortnight, at four in the morning, whilst pushing a barge up Kensington Creek, the little finger of the left hand got jammed between one of the barge oars and a spike in the leg of a wheel-barrow. This accident gave him great pain at the time: whether there was any hæmorrhage or not he cannot say, as it was very dark at the time.

He continued at his work as lighterman, being often up to his knees in water, taking no notice of the wound beyond applying some "Dutch drops" to it, although at times the arm as well as the finger were very painful. Last Saturday he complained of a stiffness about the neck and body, which was so great as to compel him to give up working.

On Monday he consulted Mr. Statham for what he considered to be rheumatism of the back. He was given a powder, some pills, and a mixture.

On Wednesday his bowels were opened: the motion was copious, dark, and very offensive.

On Thursday his bowels were again opened, but only slightly so, the motion being of the same character as the preceding one. His urine was dark and scanty.

Dec. 28th, 11 A.M.—Mr. Solly was sent for, and in the meantime he was seen by Mr. Travers. On examining the little finger of the left hand, the wound, which was but small in extent, was found to be of a lacerated nature.

An incision was made down to the bone; this was followed by a little bleeding, but no pus escaped. The muscles of the back and neck are rigid and painful; there are exacerbations at intervals of from ten to fifteen minutes, when they are more rigidly painful; the body then resting principally upon the occiput and heels. During these attacks the closed hand can be freely introduced between his back and the bed. He can open his mouth so as to admit the end of the little finger, but with great effort he can separate his jaws to the extent of nearly an inch. He complains of pain beneath the sternum, extending towards the spine. His breath is fetid.

℞ Empl. Sinapis epigastrio. Brandy, ʒiv.; Sp. Terebinth. ʒiij. ex Decoct. Avenæ, pro enema. Hyd. Chlor. gr. ij.; Pulv. Opii, gr. ss. 4tis. horis in pulv. Linseed poultice to the finger.

12 A.M.—Was seen by Mr. Solly, who did not alter the plan of treatment.

7 P.M.—Much the same. Has had no motion from the bowels, although at five the turpentine enema was repeated. The face and body are covered with a free perspiration, and the countenance has a peculiarly contracted and wrinkled appearance. He swallows with great difficulty, and complains sorely of his arms being cramped.

8 P.M.—Mr. Solly saw him, and considered the perspiration as a favourable circumstance. Pulse 67, feeble but jerking.

To have Enema Mist. Sennæ Co. ʒiij. statim.

10½ P.M.—Mr. Travers saw him, and ordered Ol. Croton. Tiglii, ♏ij. as there has been no motion from the bowels since he was admitted.

29th, 9, 45′ A.M.—Seen by Mr. Solly, and ordered—

Enema Tabaci (ʒj. ad lb. j.) dimidia adhibenda statim et repetenda si opus sit.

10, 25′ A.M.—About ʒxx. of high coloured urine, having a strong turpentine odour, were drawn off. When examined some time after, it was found to be very thick and of a deep brick-dust colour. Passing the catheter greatly aggravated his spasms.

At 11¼ the enema was given him. His pulse was then 74, jerking but feeble.

12½ A.M.—Pulse 62, feeble; has catchings of the diaphragm every two or three respirations, and is covered with a cold clammy perspiration; complains of feeling faint and sick at the stomach. Mr. Travers then saw him, and advised that the enema should not be repeated.

2 P.M.—Mr. South saw him in consultation with Mr. Solly, when the question of amputation of the injured finger was discussed; this, however, was given up, and in its stead two free excisions were made extending to the bone, but no pus followed.

To have Olei Tiglii, ♏ij. statim, repetenda horâ sequent. si opus sit. Beef-tea, arrow-root, wine, ʒiv. Calomel to be continued without the opium.

3, 40′.—Had an injection of gruel.

5.—Had a copious motion of dark green fæces, smelling strongly of turpentine, and very fœtid.

8.—Was again seen by Mr. Solly, who ordered a blister to be applied over the whole length of the spine.

To discontinue the calomel, and give instead Træ. Cannabis, ♏xx. every hour till relief is obtained.

Shortly before this visit he had a general convulsion. Two men attempted, at the patient's request, to set him up in bed, but the spasm produced by this effort was so great that the attempt was given up. The pulse is now as low as 38, and somewhat irregular.

At 10, 15′, took ♏xx.; the pulse was then 120. At 11, took ♏xx. of the T. Can.; pulse 110. At 12, was asleep. At a quarter before 1, took ♏xxx. Pulse 144: has had a short nap. At about 2 A.M. had a copious motion of the same character as the previous one. 3 A.M., took ♏xl. When the tincture is taken undiluted, it excites spasm of the muscles of deglutition.

11 A.M.—♏xxx. At half-past 12, ♏xxx.

At a quarter to 3 P.M. ♏xxx. 4, ♏xxx. 6, ♏xxx. Half-past 7, ♏xxx.

At a quarter to 10, Mr. Solly saw him. The spasms are as frequent, but not quite so severe; has had very little rest during the night; ♏xx. At 11, ♏xx. 12, is asleep.

31st, 10, A.M.—The man complains of great irritation and spasm caused by swallowing the medicine. To be given in the form of enema.

Enema Can. Ind. (ʒss. ad lbj.) pars 4tâ adhibenda statim; repetenda si opus sit.

Half-past 1 P.M.—Has just had his second enema. At half-past 2, a third was given, but it was immediately returned.

3.—In consequence of the enema not being retained, he is to go on with the tincture per orem, in ♏xxx. doses every second hour.

5.—Took ♏xxx. Has just had a severe spasm; complains of aggravation of the pain shooting from beneath the sternum to the spine.

At 7, ♏xxx. At 9, ♏xxx.

10, 20′.—The dose to be reduced to ♏xx. and to be taken every three hours during the night.

Jan. 1st, 1844, half-past 8 A.M.—Has passed a better night than any since he has been in the hospital; but in other respects there is no material change. Has had the Tra. Cannabis in ♏xx. doses at 12, 3, 6, 10, and 1 o'clock.

4 P.M.—His bowels have not been opened since 2 A.M. on the 30th. He is therefore to have Enema Misturæ Sennæ Co. ʒvj. Has taken ♏xxx. of the Tr. C. at 7, 10, 1, 4, and 7, respectively.

2d.—Has had a bad night; complains of having had no sleep, and fancies that a little rest would do him more good than all his medicine. The enema has had no effect.

10 A.M.—As the bowels are still confined, a tobacco enema, (ʒss. ad ʒvij.), one-fourth to be administered immediately, was ordered; the dose to be repeated if the first

does not cause much prostration. It was no sooner thrown up than it was followed by a free motion from the bowels, of not quite so fœtid a character as the previous ones.

To have porter lb. j. daily.

Quarter past 3 P.M.—Had a very severe attack of spasm.

5.—Mr. Solly thinks him much better, and very likely to recover.

To have nothing but nourishment freely during the day. If the spasms increase, the Cannabis must again be had recourse to.

3d.—Is better.

6 P.M.—Is rather flighty, and seems disposed to talk.

4th.—Did not sleep well, on account of being disturbed by the moanings of a patient labouring under compression in the neighbouring ward.

To have Morph. Acet. gr. ¼ statim et repetand. 4tis horis si opus sit.

The dose was not repeated, as he slept for about four hours after taking the first.

8 P.M.—Has had some sleep, and feels very much refreshed; his pulse is quiet, and he is in a profuse perspiration.

5th, 11 A.M.—Has passed a pretty good night, and is decidedly improving. If the bowels are not opened by 12, he is to have an Enema Commune.

Rep. Morph. gr. ¼.

6th.—Continues improving. The countenance is losing its peculiar wrinkled character, and the neck and back are losing their stiffness. Has spent a good night, and had two free motions, of a lighter colour and healthier character than the former ones.

Had, at 7, an Enema Commune. Morph. at night.

8th.—Has rested well for the last two nights.

Morphia as usual.

9th.—Had a return of the spasms yesterday evening.

To have the blister along spine repeated. The former one has been kept open by means of poultices.

8 P.M.—The spasms are stronger than they have been for the last few days. At their approach the abdominal muscles are tense, and the back a good deal curved.

10th.—Spasms less severe; they come on when any of the students approach and address him.

Mutton-chop, porter, and meat.

11th.—Slept well. The bowels have been opened without the necessity for an enema. Complains of great soreness from the blistered surface.

12th.—Morphia increased to gr. j. o. n.; porter, lb. ij.; brandy, ℥ij.; wine, ʒvj.

13th.—Spasms less frequent.

15th.—Has now no spasms. On the 14th, the morphia was omitted, and the consequence was that he rambled during the night.

To have Enema Com. p. r. n.

16th.—Rested well last night. Sat up to-day for about five minutes with no ill effect beyond a slight headache.

17th.—Sat up to-day for ten minutes without inconvenience.

20th.—Instead of the Enema Commune, to have Pil. Aloes co. gr. x.

22d.—Was very much griped by the medicine yesterday, and had tenesmus. The bowels were well opened at 12, after which he was much relieved.

25th.—Going on favourably in every respect; was up yesterday the greater part of the day.

Feb. 3d.—Complains of a stiffness and soreness in the tendons of the hamstring muscles, which oblige him to make use of crutches. Is now quite well.

21st.—The stiffness in the legs is gradually disappearing.

March 5th.—Is to go to-day. Feels quite well. There is yet something about his countenance indicative of pain.

Before we review the particulars of the case before us, let us first consider what is the probable pathological condition which gives rise to these formidable symptoms. A man scratches or wounds his finger; the wound may heal, or it may not; but after a few days a portion of the muscular system is attacked with convulsive action, and shortly afterwards the whole is seized in the same way. The muscles which most frequently are first seized are those of mastication and deglutition; the patient first feeling merely a little stiffness about the neck, but in a short time he finds that he cannot open his mouth; that his jaw, in fact, is locked, in common parlance. The muscles of the back are the next to be affected, and so violently do they contract when the diseased action is severe, that the whole trunk is bent backwards like a bow, patient resting only on his occiput and his heels. This spasmodic action of the muscles is exactly the most unvarying effect of inflammation of the nervous centres of the spinal cord (I do not say that there is no spasm without inflammation of the nervous centres, but I do mean that there is no inflammation of these spinal ganglia without spasm), as I have no doubt most of you are aware. And the conclusion you would arrive at in consideration of the first case of tetanus that presented itself to your notice, would be that the injury to the finger had excited inflam-

mation in the nerve, which extending along the spinal cord had by its action in this structure, excited the tetanic convulsions. Now this, undoubtedly, is sometimes the case, but not, so far as our knowledge goes at present, invariably so.

Many patients have died from tetanus, without their bodies, on a post-mortem examination, exhibiting any marks of inflammation.

Mr. Curling, who has carefully collected and studied all the facts which have been published on the pathology of this disease, and noted many cases for himself, infers :— "That tetanus is a functional disease of the nervous system ; that is to say, a disease unaccompanied with any perceptible lesion of structure, the nature of which, although essentially distinct from inflammation, is completely unknown. There are, therefore, no morbid changes peculiar to tetanus, and by which it can be recognised."

The discoveries of Dr. Marshall Hall regarding the excito-motory functions of the nerves and spinal cord, and the localization of those functions in the grey matter of the cord, as a series of ganglia, by Grainger, Newport, and Carpenter, have advanced us a step in the pathology of tetanus. We ought, I consider, to look especially to the cineritious neurine of the cord for the morbid changes upon which the tetanic phenomena depend. I cannot believe that such serious disturbance of the nervous forces can take place without there remaining some change of structure after death, though the means which have hitherto been taken to detect it have not been sufficient for the purpose.

I confess, that my impression is, that tetanus is essentially a local inflammatory disease, and as such should be treated, and that, like all inflammations of the nervous centres, it is accompanied with general want of power. So that while you employ local depletion and counter-irritation, you must also support the system by a nourishing and even stimulating plan of diet.

The success which has attended such a plan of treatment in this case is sufficient to encourage you to adopt it in others, though it would be contrary to past experience to pretend that the favourable issue of the case was positive proof that this result was the effect of the treatment, as it is well known to every practical surgeon that in the chronic form of the disease patients frequently recover, while in the acute they seldom do so.

In reviewing the relative effects of the remedial agents employed, I think it very doubtful whether the Indian hemp had any share in the relief of the symptoms. It is true that the spasms began to abate soon after its administration. But we must not forget that at the same time a blister was applied the whole length of the spine. And to this agent I am more inclined to attribute the improvement, than to the Indian hemp.

This medicine was commenced on the 29th, but discontinued on the 2d Jan., four days from the date of its commencement, from a belief that the patient was not deriving any benefit from it. The next therapeutic agent employed, the tobacco enema, was decidedly useful in clearing the bowels, if in no other way ; and the morphia was of service in procuring sleep, though I doubt whether it exerted any specific effect upon the spasms. You will observe that the patient goes on well to the 9th, still continuing to take the morphia, when there is return of the spasms, with some severity. I then repeated the blister ; for the blistered surface, which had been kept open by the linseed meal poultice for some days, had now healed. On the 10th he is better ; and on the 18th he is free from spasm, though the morphia was left off on the 14th : which shows that the abatement of the spasms cannot be attributed to its agency.

I am therefore inclined to believe that his life was preserved by the local antiphlogistic action of the blisters, and the support of his powers during the depressing influence of the tetanic spasm, with porter, brandy, meat, &c., and the removal daily of all irritating feculent matter from his alimentary canal.

When this patient was first admitted I seriously considered the propriety of removing the injured finger. I determined, however, in the first instance, to ascertain the condition of the tissues in the neighbourhood of the wound, and to give vent to pus, if any were confined, by a free incision down to the bone. There was not any matter beneath the surface, and the textures which I divided were perfectly healthy ; so that, finding no evidence of serious local inflammation and its consequent irritation, I abandoned the idea of amputation. Sir B. Brodie has informed me, that he once put to the test the value of the operation of amputation in the very early stage of tetanus, without any purpose, however, of testing its usefulness. The patient was a boy in whom sloughing of the leg succeeded a compound fracture : it was discovered afterwards that he had exhibited the early and slight symptoms of tetanus on the morning preceding the removal of the limb. It did not arrest the progress of the tetanic disorder, for he died about four and twenty four hours afterwards. On the whole we certainly do not find on record a sufficient number of successful cases in which the operation had been performed for the relief of this disease, to justify us in performing it, when any considerable limb is involved; and even in the case of a finger I should not operate without much consideration.

Considerable importance has been attached to the frequency of the pulse, as an indication of the severity of the disease, and the chance of recovery of the patient. Dr. C. H. Parry even went so far as to say that if, on the fourth or fifth day, the pulse did not exceed 110 in a minute, the probability was that the patient would recover, but if it attained 120 that the chances were very much against him. This opinion has not been borne out by other observers, and, as Mr. Curling has justly observed, the condition of the pulse must be regarded as a very fallacious test of the severity or acuteness of the disease, and cannot therefore be depended upon as a guide in forming an accurate prognosis.

ON THE DECREASE OF DISEASE THROUGH THE PROGRESS OF CIVILIZATION.

By C. F. H. Marx, M.D.
Professor of Pathology in the University of Goettingen.

(For the Medical Gazette.)

We frequently hear complaints to the effect, that the present times, however rapidly and certainly they advance in a material and intellectual point of view, still fall short physically and morally of what they ought to be; that mankind are weaker and more fragile than they were once; that they are obnoxious to many more dangers now than formerly, and that diseases, in particular, have increased both in number and severity.

There is much that, on a hasty survey, seems to countenance such complaints; in especial, the excessive refinement of manners, and the luxuries which civilization brings in her train; whence effeminacy and debility;—whilst the swelling nomenclature of diseases, and the new and endless variety of means imagined for their cure, are assumed as unquestionable evidence of the fact that matters are even going on with mankind from bad to worse.

Such a view, however, although it may greatly commend itself to us at first, is soon discovered, when fairly put to the proof, to be wholly without foundation. It will, therefore, I believe, be held as neither uninteresting nor unnecessary, if I undertake, by a somewhat circumstantial detail, to show that with the increase and spread of civilization, the sanatory condition of states and smaller communities has undergone an actual improvement; that diseases, far from augmenting, have rather been falling off in number, and decreasing in intensity; and that every onward step in the path of knowledge and true refinement has had a beneficial influence on the entire corporeal being of mankind.

It is, in fact, not difficult to show that the efforts of science, co-operating with a general humanity of manners, have succeeded not only in eradicating the seeds of many diseases, but even in arresting in the bud such as have come into life; in so circumscribing them, that, finding no congenial soil, they have soon died out, never extending beyond the isolated spot where they sprung.

It is unquestionable indeed, that, with the progress of civilization not only does population in general increase, but that the length of individual life is augmented, whilst the liability to sickness, and the amount of suffering to which every being born may be assumed as obnoxious, are lessened. Epidemical diseases, which, in the olden time, and even in ages not far removed from our own, were regarded as necessary evils, and inseparable from our humanity, are now known within the bounds of truly policied nations by the name alone; and many which were looked upon as punishments for the perversity of the will and spirit, and as hindrances ordained of God in the way of the enjoyment of life, now receive their natural explanation, and meet with their successful remedies. Some of the evils which decimated the race of men still living, and destroyed at once the blessing of sight and the sheen of beauty, approach their end; whilst others that were held as the necessary accompaniments of corporeal and mental development, of arts and of industry, are now known and combated by enlightened theory and experience as strange intruders into the community.

We are perhaps even disposed to believe that a life of perfect freedom—a natural life, as it has been called, spent in tilling the ground, in fishing, in hunting, &c.—must afford the greatest number of hours for undisturbed enjoyment. The walk, the residence in the country, the excursion, which,

with such wonderful certainty and celerity fill the mind with joy, shed such a a comfortable sense of well-being over the whole material man, seem of themselves to give us assurance that the intercourse with nature is the secret of health, the panacea for the ills of earthly existence; and that separation from her has sickness and infirmity for its consequence. However true this may be in many respects, it is still indispensably necessary to draw the distinction between that intercourse with nature which is taken as pastime, and for short intervals, and that which is necessary and incessant, and is given as a means of supporting life. The peasant, the fisherman, the hunter, have other tales to tell besides those that are connected with the pleasures and felicities of their several callings. What nature yields must mostly be won with patient endurance or with persevering toil. He who refers himself to her singly and alone, hath indeed room enough for the exercise of his powers; but he hath also a burthen on his shoulders heavy enough to bear.

In the absence of all occupation for the higher faculties, the soul dreams on but too readily in a slumbering or half waking state. But to real, to perfect health, harmony of the corporeal and spiritual aptitudes is indispensable. He who is nothing more than bodily whole, differs but little from the beasts.

The individual, like the kind, has indubitably other duties, other work to do, than by the nearest way to pursue health, and health alone. To secure this inestimable blessing, whilst other objects are attained, is one of the grand purposes of civilization. The cultivation of the higher powers is nowise in itself, and necessarily, coupled with aught that is pernicious. That mental culture is alone injurious to the body, which proceeds without regard to time, or means, or measure. True culture knows best of all what measure is right, what means are proper, what time is fit, and to lay down those rules of being and of doing which fulfil all that is needful to bodily as well as to spiritual health.

The requirements of society, results of our social state, but so often opposed to reason, the omnipotent behests of custom and of fashion, the various springs put into motion by passion and party spirit, are constant causes of a more passing or more permanent interruption of the sense of well-being; but with a little prudence, firmness, and reason, all of which are legitimate fruits of good education, the prejudicial influences of such circumstances may be greatly diminished, or entirely superseded. In no case are dark and clouded views of the civilized state significant enough to raise doubts of the comfort of its light and sunshine. The impressions made, the knowledge infused, the enlarged views engendered under the mighty influence of social co-operation, of the contemplation of noble works of art, of reading, of oral instruction, and of example, conscious and unconscious,—all arouse the corporeal energies also, and give them play and power. In virtue of the support derived from cultivated intellectual faculties, from acquired force of character and religious submissiveness, man becomes capable of giving ceaseless and successful battle to all the external influences that tend to his detriment. Good sense and moral equilibrium present themselves to us as the means best adapted for achieving elasticity and pliancy under the sorest bodily inflictions. The hardy nurseling of rude nature, without all support from higher sources, sinks, in general, under serious and continued illness, much more certainly and sooner than the tenderly nurtured son of refinement, who, from each achievement of science and art, from intellectual communion through books, from intercourse and conversation with relatives and friends, draws vital refreshment, as it were, from a never-failing spring.

The accounts we have from travellers who have lived long among uncivilized tribes and nations, differ materially in regard to the health and liability to disease of these communities. Whilst some speak of but few diseases as prevalent among them, others assure us that they had there observed the principal maladies to which we ourselves are subject. But when travellers notice few diseases, are we, therefore, certain that these are rarities in fact? Is not the reason rather to be sought for in the inhumanity of the natives, which is in some sort commanded by necessity as it is sanctioned by custom, and the insufficiency of the remedial means with which they are acquainted? They are precisely those diseases which

are most likely to meet the eye that are not seen among savages—chronic distempers, slow in their progress, consuming the body by degrees, against which science struggles with might and main, to which she only gives ground inch by inch, or which, more fortunate, she gradually compels to yield, and finally overcomes. Neither are those diseases observed among savage nations, the first symptoms of which neglected or not duly met, hurry the patient rapidly to his grave.

It is well known that fractures of the extremities in our domestic animals do not readily unite, in consequence of the impossibility of keeping them at rest: animals seldom lie, they pass the greater part of their lives standing. Their owners, therefore, rarely risk the trouble and expense of attempting a cure, the completeness and even moderate success of which is always problematical, so that the horse or the ox which breaks his leg is usually put out of the way. But should we, therefore, say that fractures of the bones never occur among our domestic animals?

Tribes and nations which pass their time in war, and have always more or less of difficulty in providing for their wants in the essential article of food, cannot bestow the necessary care upon their sick when affected with lingering diseases. Simple good will is soon exhausted, the instinct of self-preservation prevails over natural affection even for the nearest relative, and in dull indifference, or with some show of sympathy, the victim of disease is by and by left to his fate.

In communities where every one who would be fed must both aid in procuring and deserve his ration, very little care can be taken of those who are affected in their mind, who can do no work, and are only felt as hindrances in the way of every enterprise. The insane are but a kind of corpses, which can only be restored to life through the continued self-sacrifice of the sane who surround them. Left to their fate, and soon sinking under privations from which they cannot escape, they are, of course, more rarely met with among savage or half policied communities than in civilized societies, where every thing is done for their comfort and maintenance and restoration.

It is also difficult to conceive a life similar to that which we are wont to regard as having been led by man in his earliest estate, as either peculiarly pleasant in itself or advantageous to health, and when old poets tell us that the first races of men knew nothing of disease,* this is to be taken in the same sense as the assertion that before the fall the earth was without poisonous plants, and the rose without thorns.†

From a much deeper insight into the truth, we find another of the great poets of antiquity‡ ranking it among the benefits which Prometheus, besides the light and warmth of fire, conferred on the first of men, that he taught them physic:—

> ————When prostrate with disease,
> And means were none of cure,—no quickening drink,
> No soothing balm, nothing but death before them—
> 'Twas then they learned of me the art to draw
> The healing potion from the leaf and root.

To place the influence of civilization on the physical state of man in a true light, however, it is not enough to show that the increase of disease which is presumed to have followed in her train is apparent only; it is easy to do more than this; to prove that a large proportion of the causes of disease with which she has been charged, and which, indeed, are necessarily connected with her, are, nevertheless, diminished in their influence, neutralized, and in many cases made altogether inoperative. The Grecian fable tells us of a lance whose point could wound, indeed, but whose shaft had virtue to heal the wound inflicted.§

One of these causes which has not, perhaps, always been acknowledged, but which must nevertheless be taken as of great importance, is the remarkable fact, that the population of the countries of Europe has long been progressively on

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* Hesiod, for example (Opera et Dies, v. 90):—

Πρὶν μὲν γὰρ ζώεσκον επι χθονι φῦλ' ἀνθρώπων
Νόσφιν ἄτερ τε κακῶν, καὶ ἄτερ χαλεποῖο πόνοιο,
Νούσων τ' αραγλέων, αἵτ' ανδρασι γῆρας ἔδωκαν.

> For once there dwelt on earth a race of men
> Exempt from evil, from the need of toil,
> And eke from each infirmity that brings
> Untimely age on us.

† Etmüller, in Ephem. Natur. Curios. Cent. 7 et 8, App. p. 209.

‡ Æschylus, in the Prometheus Vinctus, v. 475-481.

§ The lance of Achilles; whence the proverb or adage ὁ τρώσας ἰάσεται. *Vide* O. Jahn's Telephos and Troilos. *Kiel*, 1841.

the increase, whilst the relative mortality is as continually on the decline.*

But it is obvious, that if the present race of men live longer than those that have passed away,† and the dangerous periods of infancy and early youth are more happily got over now than formerly, there is, as it were, a larger theatre for disease in general to display itself upon, and particularly for that to which the riper, and even the declining, years of man is liable.‡

One, and that an almost inevitable, consequence of the progress of man in the improvement of the mechanical powers, in the extension of the manufacturing system, is the continually increasing multitude of poor labourers, by which the gulph between comfort with respectability and utter destitution is rendered ever the more apparent. Shall not this destitution, this pauperism, of the labouring classes, for which the Saint-Simonians, the Socialists, the Communists, &c. look around them in vain for some remedy, turn out a powerful and finally unmitigable cause of disease? Shall not the habitual use of spirits, which only became common about the beginning of the sixteenth century, the article till then having been reckoned among medicaments, and which is now so frequently abused, not turn out of itself a potent cause, increasing the number of sick in contrast with former times? However certainly this question must be answered in the affirmative, with no less certainty may it be maintained that, along with the apparently inevitable and prejudicial influences of our present social state, the means of meeting and confining them within narrow bounds are developed in like and even in greater proportion.

We even encounter in the higher development of the understanding and moral nature of man, what appears to be a new and powerful cause of disease. The more this is cultivated, the more that is exalted, the more, it seems, are causes accumulated which lead to derangement and disease of the higher organization*. As an assurance that this is so, the fact of the general increase in the number and extent of houses destined for the reception of the unfortunate sufferer under idiocy, delusion, and insanity, might be, and indeed has been, quoted.

A remark of the Stagirite† appears to accord with this, viz. that men who have been distinguished for their talents in philosophy, in politics, in poetry, and other arts, are disposed to melancholy; and also the conclusion of a late Belgian statist‡, that mankind are more disposed to insanity between forty and fifty years of age, when intellectual works of the highest mark and likelihood are generally produced, than at any other period of life.

A more careful examination of the question shews, however, how insecure and one-sided such conclusions are,

* See Sir Gilbert Blane's Select Dissertations, Lond. 1822. He observes that in the year 1822 the population of England had increased sevenfold what it was between the eleventh and fourteenth centuries, threefold from the end of the sixteenth century, and that it had nearly doubled in the course of the last twenty years. The mortality in England, again, appears from Dr. Hawkins' Medical Statistics (Lond. 1829), to have been 1: 40 in 1780, and 1: 58 in 1821; it had, therefore, become about one-third smaller in the course of forty years. In the year 1697 the number of deaths in London amounted to 21,000; a century later, in 1797, despite the vast increase of population, they were but 17,000.

A corresponding ratio is also obvious in other countries, of which somewhat accurately compiled statistical tables exist. In the city of Stuttgart, for instance, according to Dr. Stimmel (On the Population of Stuttgart, Tubing. 1834, in German), the population had increased fourfold in the course of the last two centuries. The number of the births has long considerably surpassed that of the deaths; but this has been the case more particularly in the course of the last twenty-two years.

† Casper informs us that there are accurate bills of mortality extant for the city of Berlin for more than a century, from which it appears that forty-eight per thousand fewer now die in infancy than used to perish eighty years ago, and that twenty-seven per thousand more now reach extreme old age than formerly. See his Probable Duration of the Life of Man, Berlin, 1835; and his Lectures on the same subject, ib. 1843 (both in German).

‡ In Stuttgart, for example, of one hundred born alive, forty-seven more than formerly now attain their fifteenth year. (See Stemmler on the change in the laws of mortality induced by vaccination, Diss. Inaug. Tubing. 1827, in German.)

* Esquirol, who certainly ought to have a voice in such a question, says (Ann. d'Hygiène, Dec. 1830), that advances in civilization increase the frequency of insanity. Idiocy, he holds, may depend on soil, situation, and material influences; but insanity, he says, is frequently in the direct ratio of civilization: it is an effect of social relations, of intellectual and moral influences. In the paper in which he discusses the question: Whether or not there were more maniacs forty years ago than at present (Mém. de l'Acad. Royale de Médecine, t. i. 1828), he declares that the increase is no more than apparent. The interest taken in this class of sufferers is now greater than it was formerly. Very poor persons have frequently simulated insanity; and individuals addicted to drinking, who disturb the public tranquillity, are sometimes sent to madhouses.

† Aristoteles, Problem XXX.

‡ Quetelet, De l'homme, &c.

and how greatly they who draw them are exposed to error. Much even depends on the meaning attached to words in the inquiry. When the ancients spoke of any one as melancholic, they no more meant to say that he was mentally diseased than we do in ordinary parlance when we make use of the same expression; they rather implied that the individual was disposed to live in self-communion, and abstraction from ordinary affairs, or that he was under the influence of some higher impulse. Genius—decided mental ability in a particular direction—is most rarely in contradiction with itself and overtaken by disease: if it be, however, the case attracts so much attention that it scarcely fails to wax and multiply in the narration that is made of the event.—One man of genius becomes insane, *therefore* genius is prone to insanity; such is the reasoning.

Every man who gets beyond his contemporaries in ingenuity, in ability, in character, is very commonly spoken of as eccentric — perhaps as mad. In historical cases, too, it is always indispensable to inquire into particulars: when it is narrated of the author of the Jerusalem Delivered that he was mentally insane, it still remains to be proven that he was so in reality; and then, if he were, to ask what brought him to so sad a pass?

The most richly endowed nature may unquestionably become mentally diseased as well as the most poverty stricken in point of intellect; but in the one it will be regarded as an accident and unusual, in the other as likely and not uncommon.

To regard the culture of the mental powers at large, or of one or more among them, as a ground of their derangement or destruction, is certainly a somewhat hasty procedure. It is not culture, but half culture, that has a pernicious influence upon the mind*. The more numerous and the better the educational institutions of a country are, the less numerous are the insane†. The more the whole of the mental faculties are brought into play, the more certainly will imperfections be set aside. Inaction occasions derangement still more frequently than activity*.

How rarely do we see men of letters, who labour in peace and due measure, become the subjects of insanity†! It is not, in truth, even intense application of the higher faculties in the noblest ends of life that overthrows the mind, but passion and the changing accidents of fortune, against which, in sooth, elevation of soul supplies the truest remedy. When we see it asserted, therefore, by a late respectable authority‡, that suicide has become more common with the progress of civilization, as it is called, it is a pseudo-civilization that is to blame, not real civilization, which leads us, at an early period of our intercourse with her to know, that the end of life is not mere sensual enjoyment, and that each sore proof to which we are put must be manfully borne.

As an insanity among animals has even been made subject of discussion of late years, and the activity of observers has laid the foundation of a comparative psychiatria§, many might be disposed to search for the cause of the apparent increase of such accidents in the increase of civilization. But we do not see that our domestic animals are now worse fed, or lodged, or accommodated, than formerly; on the contrary their management is better understood than ever it was: and then is it not quite certain that the more general application of purely mechanical forces has long tended, and still tends, continually to lessen the demands made upon animals for extraordinary efforts? If there be increase of psychical disease among animals, therefore, the civilization of man can have nothing to do with it.

Whether the relative number of insane persons is actually greater now than it was in former times cannot be precisely ascertained. The very latest

* See Riecke's Medical Topography of Wirtemberg, Tubing. 1833; Fuch's Medical Statistics of Insanity, in Friedreich's Neue Magazin für Seelenkunde, Würzb. 1833.

† Fuchs, op. cit. p. 88.

* According to Louis Raybaud, in Quetelet, op. cit.

† Fuchs, l. c .p. 114.

‡ Bernoulli on Population, Ulm, 1841. Diez (on Suicide, Tubing. 1838), warns us, however, that the assertion of M. Ch. Dupin, "that with the increasing civilization of communities the number of murders or assassinations decreased as certainly and remarkably as that of suicides augmented," is not to be taken, without considerable limitation, for a truth.

§ Pierquin, De la Folie des Animaux, de ses rapports avec celle de l'homme et les législations actuelles. Paris, 1839, 2 tom. 8vo.

lists we have from our establishments for lunatics are not altogether unimpeachable. Even as little as the court-fools of the olden time can be referred to the category of insane persons, as little do all who are now confined as lunatics truly belong to it. Oxford, who attempted the Queen of England's life, and is now shut up in Bethlem Hospital, is not insane.

It is not very long since those who were so unfortunate as to be visited with insanity were commonly enough concealed in the private parts of dwelling-houses, on various grounds: now, to conceal the family misfortune—the disgrace, as it was held—and again to escape the public interference with relatives, &c. In the present day, insane persons are all but invariably placed in establishments especially destined for their reception, and held under the supervision of the state. These once served merely as places of confinement; every effort has of late years been made to render them places of cure. Formerly, the insane used to be visited, or means taken for their recovery, only when they became alarmingly ill, and towards the end of their disease; now they are placed under treatment from the first dawn of their distemper*. This is one grand cause for the necessity of the larger space and the new establishments which we see devoted, of late years, to the accommodation of the insane; and then, the lunatic, considered as an object of special medical care, is found to require more room than another patient if he would have the best chance given him for recovery: when the object was merely to seclude the madman, very little space sufficed; when humanity insists that the object is to restore him to reason, he must have better entertainment.

Even as little, therefore, as civilization in general can be regarded as the nurse of mental disease, in the same proportion, on the other side, does she step forward as the requirer of the purest humanity in its treatment. Sympathy with man in his affliction, the devotion which, in utter unselfishness, makes sacrifice of itself, never put forth fairer blossoms than do many among our present establishments for the treatment of insanity.

* More than two-thirds of all the recoveries take place in the course of the first year.

The more we advance in our knowledge of this kind of disease, the greater the number of forms which it assumes do we distinguish. But we do not infer from this that the same variety did not obtain in former times. On the contrary, some shapes of mental aberration which we find indicated by our predecessors seem to have disappeared, or to have become ever rarer and rarer in their occurrence. One species of madness, lykanthropy, has ceased entirely, although in the third and fourth centuries, maniacs who roved about at nights in solitary places, and howled in churchyards like wolves, were extant in many countries, and in no inconsiderable numbers*.

Congenital idiocy, particularly cretinism, hitherto held hopeless and irremediable, has nevertheless, in these days, been assailed, and the visitation sought to be made more tolerable by a skilful combination of medical art with the means suggested by enlightened humanity.

The lower animals are often characterised as *dumb;* and there is a certain sympathy with their condition, and pity that they are without the means of intercourse, implied in the expression. But it is only in very recent times that society has shown the least solicitude about those unfortunates among men to whom nature has denied the sense of hearing, and so taken from them the power of developing and using to purpose their organs of speech. The philanthropist and the teacher, however, have now associated them with the physician to inquire into the cause and origin of the privation in each particular case of surdity and mutism, with the special object in view of rendering the state of its subject as endurable as possible, and of enabling him to hold converse with his fellow-men. The deaf and dumb were formerly a heavy burthen on society†. With the exception of a very few, favoured by position and circumstance, who attained to a certain grade of moral and social independence, all the rest—the great majority—were left to their own incapacity, to

* Sprengel, History of Medicine, 3d edit. 2d vol. p. 243.

† Their number is greater than is generally imagined. In the kingdom of Wirtemberg, Riedle (Medical Statistics of Wirtemberg, Tubing. 1834) found 340 deaf and dumb children.

the unmitigated wretchedness of their isolation, in a state of moral and physical degradation, which made them objects not merely of compassion but often of solicitude also. How different at the present time, when, brought up and educated in public institutions especially devoted to the purpose, instructed in reading and writing, their understanding is enlightened, means of communicating with the world around them are supplied, and a substitute is found them for their mute and unavailing organs of hearing and of speech! Let the cause of this abnormal condition of the senses be what it may, civilization very certainly has no portion in it; far otherwise, the sole alleviation for the evil that can be had, comes from her hand.

Even as much may be said of all the establishments for the blind, the deformed, the halt, and the lame, in which science and experience now remove or remedy ills that were certainly as frequent in former times as now, but which were then hopeless burthens to the individual, and sources of charge to the commonwealth.

[To be continued.]

A CASE OF

INVERSION OF THE UTERUS:

With Observations.

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[Concluded from page 15.]

(For the Medical Gazette.)

From what has been written on the spontaneous occurrence of inversion of the uterus, it must be borne in mind that all the sources of irritation which are capable of producing irregular contraction of the uterus should be carefully avoided; such as, on the one hand, hastening the labour; on the other, allowing it to be too tedious; rupturing the membranes too early; alarm and agitation of the mind; the erect position, or leaning forwards over the bed, during labour; the rapid extraction of the body of the child after the head is expelled; pulling at the funis, or hastily extracting the placenta; and all means which are injudiciously had recourse to in order to increase the power of the pains during labour; such as the free use of stimulants, the imprudent administration of the ergot of rye, or the encouragement of too early bearing-down efforts, which may have a tendency to effect a too rapid, premature, and forcible dilatation of the os uteri, and to produce spasmodic and irregular contraction of the uterus.

After delivery, the uterus should be felt to be in a contracted condition by placing the hand over the pubis, and the binder should not be firmly applied around the abdomen until it has assumed that state under the hand, when it may be cautiously secured; the room should not be over heated, as is too frequently the case; warm drinks and stimulants should then be especially avoided; and the draught of tincture of opium, or other anodyne, should not be administered for at least an hour after the expulsion of the placenta.

If, during the removal of the placenta, the os uteri be felt unusually flaccid, it may be desirable for the fingers to be retained for a time within the vagina, and contraction of this part of the uterus sought to be effected by gentle friction around the inner margin; at the same time guarding against rough pressure over the abdomen.

Hæmorrhage.—Most of our practical obstetric writers state that inversion of the uterus, with partial or complete detachment of the placenta, is accompanied with considerable hæmorrhage; and many of them distinctly assert that death has been speedily produced by the excessive discharge of blood*.

In the case which has been related, the blood flowed more rapidly and profusely than in ordinary cases of flooding, which, perhaps, may be accounted for by the nearness of the bleeding vessels to the orifice of the vagina. Such, indeed, was the volume of blood, and the rapidity with which it was passing away, that I was induced immediately to introduce my hand, and then it was that my fingers came in contact with the inverted uterus, and

* In confirmation of this remark, reference may be made to Dr. Denman (op. cit. pages 420, and 422.) Mr. Newnham (3, 8, 14). Drs. Hopkins (112). Burns (520, 522). Blundell (Lancet, 1827-8, vol. ii. p. 545). The London Practice of Midwifery, edited by Dr. Jewel (310, 311, 312, 313) Dr. Conquest (166, 191, 192). Merriman, (159). Rigby (220). Lee (Clinical Midwifery, 206, and Medical Gazette, August 4th, 1843.) Ramsbotham (540, 541) Campbell (402.)

the blood could be felt proceeding directly from the rough surface to which the placenta had been attached. This case strongly confirms, I imagine, the propriety of making an early examination per vaginam in cases of hæmorrhage, in order to ascertain if the uterus have become inverted, as recommended by Dr. Denman, who had occasionally heard of fatal cases from hæmorrhage following inversion—"whether the uterus be inverted or not should therefore in the first instance be ascertained by the methods before mentioned" (by examination above the pubes and per vaginam), "in every case of profuse hæmorrhage after the birth of the child, and particularly after the exclusion of the placenta" (p. 422). By Dr. Hopkins—"we should examine, to ascertain if it be inverted in all cases of hæmorrhage occurring subsequent to labour." (Vol. ii. p. 112.) By Dr. Conquest—"this accident is discovered only by examination through the abdominal parietes, and by the vagina; but should always be suspected, when hæmorrhage, severe pain, and great prostration of the vital powers exist, without the uterus being sensible to the hand above the pubic region" (p. 191). In the London Practice of Midwifery,—"sometimes hæmorrhage will take place early after delivery, and whenever it does, we should always examine; there is no difficulty in examining, and it ensures the safety of our patient," (p. 310,) and by Dr. Jewel in his note to this chapter (p. 313.)

It is affirmed by Mr. Newnham, that it has often happened that the death of the patient has taken place from hæmorrhage attendant upon inversion, and the cause has never been discovered, till, on examination post-mortem, the uterus was found inverted in the vagina; and he adds—"in every instance, therefore, after the delivery of the placenta, one or more fingers of the operator should be introduced into the vagina in order to ascertain that the uterus is not inverted. If this simple process were attended to, chronic inversion of the uterus would be known only by description" (p. 8). Regarding, as this author does, the inversion as occurring consentaneously with the expulsion of the placenta, the comparatively indelicate proceeding of formally introducing the fingers after the removal of the placenta, may be advantageously replaced by the plan which is recommended by Dr. Conquest, of permitting the placenta to slip by one or two fingers of the left hand retained within the vagina.

Opposed to the views of those who consider that the hæmorrhage from inversion is of a dangerous character, is the opinion of Dr. Radford, who regards it as inconsiderable, and thinks that it has been much overrated. He states, that in inversion the placenta is generally adherent, and that, if it have been detached from the uterus, this organ contracts as under ordinary circumstances, and the bleeding ceases. If the accident have occurred from pulling at the funis, the placenta in the majority of such cases will be found adherent to the uterus, and necessarily there will be no attendant hæmorrhage; but if the inversion may occur spontaneously, and without the employment of undue force, as we have endeavoured to show, it may, and doubtless in many such cases does, take place after the expulsion of the placenta. I am by no means satisfied that the cases of this disease, from whatever cause they may have arisen, have generally occurred with the placenta adherent. In two of the six cases related by Dr. Radford, it may be inferred that the placenta was expelled antecedently to the inversion of the uterus, and in many other recorded cases the placenta had been previously removed.

If the placenta be entirely detached, and the uterus become subsequently inverted, the body of the organ may undoubtedly contract in volume as in the normal situation, and the hæmorrhage be but slight, but the loss of blood must very materially depend upon the degree of that contraction. If the uterus be contracted but to a slight extent, the vessels remain of considerable calibre, and the bleeding from their open mouths will be profuse. We must not forget, too, the very different condition in which the orifices of the uterine vessels are placed in an inverted, compared with the natural state of the uterus. In the natural condition of the organ, after the expulsion of its contents, the vessels are closed by the equable contraction of its parietes; the margins of the vessels are brought into close approximation, and the flow of blood is thus prevented. In

the inverted uterus, on the contrary, the surface, which in the natural condition is concave, and favourable to perfect closure of the vessels, is rendered convex, and the vessels are made still more gaping. Should there be partial relaxation of the body of the uterus, with or without inversion, the probability of an arrest of the hæmorrhage from coagulation of the blood will be likely to be different in the two cases. In the proper position, the closure of the vessels will be more likely to be effected by the formation of a coagulum, than when the fundus is inverted, placed in a more dependent position, and the mouths of the vessels still more widely opened. The amount of hæmorrhage will, therefore, greatly depend upon the degree of contraction of the fundus and body.

It also occurs to me that the degree of contraction of the os and cervix uteri must exert an influence upon the extent of hæmorrhage. We have seen that the fundus and body, and the cervix and mouth of the inverted uterus, are in different states of contraction in the cases that occur spontaneously. If, after the descent of the fundus and body, the cervix and os uteri continue moderately relaxed, and if the former parts are not strongly contracted, the organ is in a condition highly favourable for the flow of a considerable quantity of blood; but if the os and cervix uteri should take upon themselves to contract firmly, I imagine that such a degree of constriction will be effected as to preclude the possibility of a profuse hæmorrhage. In those cases of inversion of the uterus in which the placenta had been previously expelled, and in which but little hæmorrhage had occurred, it is probable that either the fundus and body were very firmly contraced, or the cervix and os uteri were so constricting the vessels proceeding to the inverted organ, as to prevent the free circulation in the parts below the stricture. On the other hand, where hæmorrhage has occurred to a dangerous and even fatal extent, it is highly probable that all the parts of the uterus, and more particularly the cervix and mouth, have continued more relaxed, and, although the body of the uterus must originally have contracted to a certain extent to have permitted its passage through the brim of the pelvis, it is possible for it afterwards to become relaxed and flaccid with a very yielding condition of the vagina. This explanation may account for the variable degree of hæmorrhage in the recorded cases, and for the apparent discrepancy between the authors who have been alluded to. In the case which came under my observation, the body of the inverted uterus was not very firmly contracted, and the os and cervix uteri were considerably relaxed, so that the hæmorrhage was profuse.

Constitutional debility may produce that condition of the uterus the most favourable to relaxation after labour; and judging from the temperament of my patient, a general laxity of the system may play an important part in conducing to that condition of the uterine fibre prone to inversion of the organ. My patient had suffered greatly from prolapsus of the rectum, and it is reasonable to infer that the predisposing cause to such derangement of one of the pelvic organs might act as a predisposing cause to the other displacement.

The depression of the system, in inversion of the uterus, may not be proportionate to the loss of blood, and may be extremely dangerous in some cases when the uterus is not speedily reverted, even where but slight hæmorrhage occurs; at the same time it must be borne in mind that this very depression may be one, and no inconsiderable cause, tending to prevent or diminish that loss, by depressing the action of the heart and circulating system.

Treatment. — All writers on midwifery agree in recommending a speedy replacement of the inverted uterus, although, with regard to the propriety of first detaching the placenta in cases where it is adherent, there is some difference of opinion; and as to the precise mode of effecting the reduction, different directions are given by different authors.

Having observed that profuse hæmorrhage is frequently attendant upon inversion of the uterus, it should be an axiom in midwifery, immediately to examine per vaginam in cases of hæmorrhage after the expulsion of the placenta. By attention to this rule, considerable loss of blood may be prevented in those rare cases in which this displacement should occur; and the uterus may be re-inverted with

much greater facility than after the os and cervix shall have assumed a contracted state.

The greater the degree of contraction of the os and cervix uteri, the greater will be the difficulty of reducing the fundus; and as the cervix may become strongly contracted at any period after the inversion has taken place, an effort at reduction should immediately be made. The sooner the attempt is made the more easily will the reduction be accomplished; but we cannot say at what time after the accident it would be impossible to effect it; for some practitioners have succeeded after a considerable period had elapsed. Dr. Denman writes, "The impossibility of replacing it, if not done soon after the accident, has been proved in several cases to which I have been called so early as within four hours; and the difficulty will be increased at the expiration of a longer time. Whenever an opinion is asked, or assistance required, in those cases which may not improperly be called chronic inversions, it is almost of course that the reposition should be attempted; but I have never succeeded in any one instance, though the trials were made with all the force I durst exert, and with whatever skill and ingenuity I possessed; and I remember the same complaint being made by the late Doctors Hunter and Ford; so that the reposition of a uterus which has been long inverted may be concluded to be impossible*."

In other cases it is said that the re-inversion has been effected after several hours, seven or eight days, and, in one case, even twelve weeks, had elapsed†. These cases should therefore induce the practitioner to use every effort at reduction, even where his assistance may have been required at a late period, and to repeat the attempt should his first trial be unsuccessful, rather than regard it as irreducible.

Puzos, Dionis, Merriman, and Radford, recommend that the placenta should be first removed where it still adheres to the uterus; but by other eminent authorities the reduction is recommended to be attempted whilst the placenta is yet adherent. The impossibility of reducing the uterus with the placenta adherent, in some few cases (see Merriman's Synopsis, page 159), would incline me first to remove the placental mass, should a case of this kind come under my care: nor would the probability of rendering the case complicated with hæmorrhage deter me from this proceeding, since the hæmorrhage would be under direct control, and the greater facility with which the uterus could then be reduced would more than counterbalance the inconvenience from that source.

Mode of reduction.—Two modes of reduction have been laid down in works; the one by grasping the tumor in the hand, and firmly compressing the organ until it shall regain its natural position, as is recommended by Mr. Newnham, Drs. Hopkins (with the hand previously immersed in cold water), Burns, Jewel, Radford, Conquest (with the subsequent injection of cold water), Rigby, Lee, and Campbell; and the other by making an arch or crutch with the back of the fingers, and exerting pressure upon the fundus, as advocated by Drs. Merriman and Ramsbotham, and also by Mr. Newnham (by means of the fingers in a conical form) and Dr. Radford, when the inversion is partial, or merely to a slight degree. Dr. Blundell alludes to both plans of reduction, and states that the one or the other may be desirable according to circumstances; the grasping of the tumor as applicable to the reduction of the completely inverted uterus until it has been thrust within the vagina, and then by pressure upon the fundus or most depending part. In the complete form of the inversion, and when it may have existed for "a few hours, or even perhaps a few days," the mode of proceeding is happily described by Mr. Newnham in the following language. "It is here to be remembered that the cervix uteri is constricted around the neck of the tumor. It is therefore the wisest practice to introduce the hand, and gently grasping the tumor, endeavour to re-invert the uterus by returning first that portion of it which was last expelled from the os uteri. This process will be considerably assisted by pressing upwards the fundus of the uterus, at the same time that we compress gently its superior portion. Here it is, in fact, that the rules for the reduction of strangulated hernia are important, and should never be forgotten. The deli-

* Denman's Introduction, edited by Dr. Waller, page 420.

† Radford's Essay, page 29.

cacy and sensibility of the organ are to be remembered, and all rude and needless irritation should be avoided." (Op. cit. page 16.)

This plan should be adopted in all cases of inversion of the uterus, whether complete or partial: in the former it would seem to be by far the most efficient mode; for, "by compressing the organ, contraction and diminution of its volume will follow, whereby our object will be more easily attained" (Campbell). In the case at the head of these observations, both plans were tried; in the first instance the fingers were formed into an arch, and pressure exerted upon the fundus, which was followed only by a slight doubling within itself of this part of the organ; but afterwards the tumor was grasped within the hand, and by gentle and continued pressure the reduction was speedily accomplished.

After the reduction, the hand should not be withdrawn until the uterus shall have firmly and uniformly contracted. It may be useful very gently to elevate the pelvis, and to keep it in that position by means of some support. The strictest rest should especially be enjoined, and the sitting or erect position prohibited, for a longer period than usual.

Conclusion.—The following deductions may be made from the accompanying case and observations:—

1. That inversion of the uterus may occur spontaneously, and without that degree of force which has been too generally regarded as almost the only cause.

2. That certain circumstances, capable of producing relaxation or irregular contraction of the uterus, are therefore, in every case, to be guarded against.

3. That inversion of the uterus may be accompanied with profuse hæmorrhage.

4. That in all cases of hæmorrhage following the expulsion of the placenta, it should be the first duty of the practitioner to ascertain if it proceed from displacement of the uterus.

5. That re-inversion of the uterus should be attempted as speedily as possible after the discovery of the accident; but that the practitioner should not be deterred from the attempt even after a considerable period had elapsed.

6. That in cases where the placenta is still adherent, that body should be first removed.

7. That the mode of reduction likely to be the most efficient, is by grasping the tumor in the hand, and exerting some degree of pressure upon it, after the manner of reducing a strangulated hernia.

The points concerning which there appears to be considerable discrepancy in the writings of various eminent obstetricians, viz. the possibility of its spontaneous occurrence, and the fact of its being accompanied with dangerous hæmorrhage or not, can only be set at rest by the faithful record and publication of cases occurring in the wide sphere of medical practice throughout the country. The rare occurrence of the disease, and the liveliness with which the main features have been impressed upon my mind, are perhaps a sufficient apology for publishing these imperfect observations. Should they, however, elicit the publication of other cases, or tend to establish more precise rules of treatment, the writer's object will have been attained.

Bedford, March 16th, 1844.

ADHERENT PERICARDIUM.

To the Editor of the Medical Gazette.

Sir,

Having observed in the number of your journal of the 29th ult. a communication from Dr. Norman Chevers, in reference to the consequences of adherent pericardium, which appears to have been called forth by some remarks of mine, in a paper published in the 7th Vol. of the Guy's Hospital Reports, and which remarks were repeated in a somewhat different form in the Gulstonian lectures for the present year, I am induced to trouble you with the following observations.

First of all, I would state that I am quite ready to acquit Dr. Chevers of any improper motive in writing that letter, and to concede to him the merit of laborious research for which he so justly contends.

As regards myself, however, it appears to me that Dr. Chevers must have read my paper in the 7th Vol. of the Guy's Hospital Reports very hastily, for in the foot-note at p. 488, of

which he has only quoted the last clause, I said, "It was my intention to have adduced some examples of pericardial adhesion without hypertrophy, had not the subject been well illustrated in the present number, by Dr. Chevers." The meaning of which is, obviously, that the cases were in my possession, and that I had intended to publish them before I received those of Dr. Chevers, and that I withheld them in some measure on that account. The fact was, that it being necessary (in order to keep the size of the number within its usual limits) to suppress some of the matter which was then in my possession, I accordingly, but not I think uncourteously, suppressed my own cases in order to make room for those of Dr. Chevers.

As for the cases which I adduced in the Gulstonian lectures to support the opinion that adherent pericardium does not necessarily give rise to hypertrophy, the case first mentioned was inspected by my friend Mr. T. W. King and myself more than seven years ago, and the fact of old pericardial adhesion without hypertrophy was pointedly noted immediately afterwards by that gentleman, in his account of the inspection, in the records of the Museum at Guy's Hospital; and the last mentioned case was inspected by my friend Dr. Powell, of Tonbridge Wells, and myself, ten years ago, and the same remark inserted by me in my private note-book. Both observations were in fact made long before I had the honour of Dr. Chevers's acquaintance; before, I believe, that gentleman became a pupil at Guy's Hospital. I beg, however, to state, that I do not claim the opinion as originally my own, the truth being that I have heard it, as well as the opposite one, maintained for the last ten years at least, by others, and I may mention, that I remember to have heard the views taken by Dr. Chevers, and partially adopted by myself, maintained at least as long as that time by Mr. T. W. King. I may, too, be allowed to observe, that my opinion has not wholly coincided with that of Dr. Chevers, as expressed in his paper in the 7th Vol. of the Guy's Hospital Reports, for he there rather emphatically states, that the remark that adhesion of the pericardium tends to cause enlargement of the heart "can be applied *only* to one class of cases of this description—to those in which, superadded to the adhesion of the pericardium, there is also disease of the valvular passages of the heart*," whereas the main object of my second Gulstonian lecture was to point out how and when adhesion of the pericardium *did* produce enlargement of the heart, *without any valvular disease whatever*. Dr. Chevers has, indeed, as appears from his letter to you, somewhat modified his former opinion, but of this I could not then be aware, and therefore could not avail myself of his authority in favour of my views.

Allow me, sir, again to remind you, that I am not now addressing you in order to maintain any claim to originality on my own part, but to set aside an imputation which is implied in Dr. Chevers's letter, and which is of a graver character than that gentleman is perhaps himself aware of, and which I am most ready to believe that his own good sense and gentlemanly feeling will, upon more mature reflection, lead him to regret.—I am, sir,

Your obedient servant,

GEORGE HILARO BARLOW.

7, Union Street, Southwark,
April 3, 1844.

LARGE NEW-BORN INFANT.

To the Editor of the Medical Gazette.

SIR,

SHOULD you deem the following case worthy of insertion in your excellent journal, you will much oblige,

Your obedient servant,

JOHN WHITE, M.D.

Preston, April 1, 1844.

April 1st.—Mary Hyde, æt. 39, residing in Everton Gardens, was this day brought to bed of her thirteenth child. States that her children have always been very large, though she is not much above the ordinary size of women herself. The weight of the present, a female child, is 15 lb. Avoirdupois; the circumference of head is $15\frac{3}{8}$ in.; breadth of shoulders, 8 in.; and length from head to foot, $24\frac{1}{4}$ in. The placenta weighed only $1\frac{1}{4}$ lb.; and the cord is remarkably small. It is by no means an unfrequent occurrence in this neighbourhood to find new-born infants weigh 12, 13, and 14 lb.; and

* Guy's Hospital Reports, p. 421.

the average weight seems to be from 10 to 11 lb.

Notwithstanding the more than ordinary weight of infants at the time of birth, it is worthy of remark, that the generality of adults never reach above the middle size, and by far the greatest number are much below it. It is very probable that this may arise from the early age at which children are sent to work in the factories; and that, although the parent plant be impaired from want of proper culture, it preserves within itself the power of propagating a race which, by due and timely training, might become one of the finest in the kingdom.

CASE OF SUCCESSFUL PERITONEAL SECTION

FOR THE REMOVAL OF

TWO DISEASED OVARIA,

COMPLICATED WITH ASCITES.

By John L. Atlee, M.D.

Passing by the account of the symptoms under which the patient suffered for several years, the courses of medicine she underwent, the repeated tappings that were performed, and the large quantities of fluid that were removed from time to time, it was at length discovered that she had in the abdomen two tumors, one on either side, just above the brim of the pelvis, which were referred to the ovaries; and in the absence of any other obvious cause, were held as the immediate occasion of the ascites, which was now rapidly bringing the patient to her end. She was now informed of her real situation, and the one remedy—that of extirpation of the tumors—which would prove effectual. "I frankly informed her," says the author, "of the magnitude, and of all the dangers of the operation; concealing nothing as to its immediate or remote consequences; and detailed to her all the unsuccessful, as well as the successful cases, so far as I could collect them from my own library and those of my friends. I was not then aware of what has been recently accomplished in England by Drs. Clay and Walne; but the triumphant results of American surgery satisfied me that, if my patient, after a full understanding of her case, and the dangers of the operation, decided upon it, it was my duty to undertake it. With the single exception of L'Aumonier, of Rouen, in 1775, Dr. M'Dowal, of Kentucky, had, so far as the records of medicine inform us, been the first to prove its successful practicability — but few had followed him in this country, and still fewer in Europe. On the contrary, the leading medical and surgical journal in Great Britain had denounced it; had censured those who attempted it; had pronounced it impracticable; and had even questioned the veracity of those who had been the pioneers in this much abused operation. There was, therefore, but little sympathy, and much censure, to be expected, should I fail of success. With my brother only did I counsel in regard to it, and he concurred with me in the propriety of operating.

On the 23d of June, 1843, "I commenced by making an incision about nine inches long, through the skin and cellular tissue, from half an inch below the umbilicus to within an inch and a half of the upper surface of the symphysis pubis. The length of the incision between these two points was owing to the ascitic distension. An opening was now carefully made through the linea alba, a director introduced, and an incision made for an inch each way above and below the opening. Some slight difficulty occurred in doing this exactly in the median line, owing to the adhesions between the parts, occasioned by the previous wounds in tapping. The peritoneum was now exposed, and to test the fact, whether the dropsy were peritoneal or encysted, which had been the subject of discussion between my brother and myself, a very small opening was made through it with the point of the scalpel. This was immediately followed by a discharge of thin and pale straw-coloured serum. Being now satisfied that the dropsy was peritoneal, and had been caused by the obstruction to the circulation, and irritation produced by the tumors, I plunged a trocar through the opening, and drew off about 18lbs. of a similar fluid. The abdominal cavity was then emptied as much as possible, by pressure on its whole anterior surface, and the fascia and peritoneum opened by the probe-pointed bistoury, guided first by the director, and subsequently by

the two first fingers, to the extent of the first incision. About 2lbs. more of serum escaped from the most dependent part of the wound. The first thing that presented itself, when the cavity of the abdomen was opened, was the upper and inner part of the tumor, as large as a goose-egg, composed of very small hydatids, varying from the size of a millet seed to that of a dried pea, and of a cream colour, projecting out of the pelvis on the right side, above the peritoneal investment of the tumor, and overlapping it like a mushroom for half an inch in every direction. Above this, and to the right, was seen that portion of the tumor which projected highest above the brim, covered by peritoneum, and extending over the iliac vessels. In the centre of the pelvis, and very much *in situ*, the fundus uteri could be seen, forming the plane surface previously felt through the integuments, and closely wedged between two ovarian tumors. The left ovarium filled completely that side of the cavity of the pelvis, and rose 1½ or 2 inches above the brim, having the fallopian tube and broad ligament expanded over it. The fundus of the vesica urinaria, which had been emptied just before the patient was placed on the table, was close behind the symphysis pubis, and appeared to occupy but little space. The right ovarium, on the right side of the hydatid portion, was elevated about four inches above the brim of the pelvis, and was, to my surprise, firmly attached all round the brim and sides, from the crest of the pubis to the projection of the sacrum. From the sulcus formed between the hydatid portion and that covered by the peritoneum, and strongly attached to it, a bright red fillet or band of arteries, about five-eighths of an inch wide and six inches long, and resembling, in regularity of arrangement and size, the texture of a gum-elastic suspender, extended obliquely across the median line of the body, and was attached to the omentum high up in the left hypochondriac region. From the highly injected appearance of the investing membrane of this fillet, I am induced to think that it was the seat of the pain in the above region of the abdomen, so frequently complained of by the patient; which pain had suddenly returned two days before the operation, and still existed at the time of it. As these arteries, from their size and number, seemed to afford the principal supply of blood to the tumor, a single leather ligature was thrown around the whole, tied firmly, and cut off close to the knot. They were then divided within half an inch of the tumor. I next tried to introduce my fingers between the tumor and the brim of the pelvis, but this was rendered impossible by the firmness of the bands above alluded to. It was now found necessary to extend the incision through the skin, fascia, and peritoneum, down to the symphysis pubis, to facilitate the dissection of the anterior part of the tumor. I then commenced near the crest of the pubis, and by means of the scalpel, probe-pointed bistoury, and the fingers, cautiously separated the adhesions two-thirds of the way round the right side of the pelvis. At this point the bands were particularly firm, and in dividing them a artery of considerable size was cut. This was tied with a leather ligature, and cut off close. It was at this stage of the operation, that in raising a flap of thickened peritoneum, I discovered beneath it the proper, or albugineous coat of the ovarian tumor, and the whole character of the disease was disclosed. In almost all ovarian tumors, we find them covered with a complete peritoneal investment. In this case it appeared, that the inferior portion of the right ovarium first became diseased and expanded, and in doing so, after having separated the folds of the peritoneum composing the broad ligament, dipped down into the pelvis, and gradually filled it on the right side. As the tumor increased, it raised up the peritoneum lining that side level to the brim, and there it became firmly attached. But one artery passed into the tumor in that direction. After this was cut and tied, and the peculiar relations of the tumor were exposed, one sweep of the bistoury sufficed to clear it from its posterior connexions, and after breaking up the cellular attachments in the basin of the pelvis with my fingers, I raised the whole out of its bed. That portion of the tumor above the brim, overlapped the iliac artery, and I felt it pulsating strongly when I separated the tumor.

Previous to this time, the small intestines were protruding through the external wound, and interfered with the dissection. Drs. Neff and Parry had

been requested to make pressure upon the sides of the abdomen, with the intention of confining them under the relaxed integuments; but we soon found that this pressure only occasioned a more obstinate protrusion; and during the remainder of the operation, they were easily restrained by my brother, who supported them within the cavity, in the palm of his hand, in the upper angle of the external wound. It was, therefore, unnecessary to use the soft flannel envelopes, wrung out of warm water, previously provided. While engaged in doing this, the extremity of his fingers rested upon the aorta. The benefit of the previous treatment was strongly exemplified in the collapsed appearance of the intestines. They lay flat within the abdomen, and quite free from flatulent distension. Their peritoneal coat was of a pale pink colour, and slightly injected.

So great was the development of this ovarian tumor within the pelvis, and so closely adherent to the uterus, that considerable traction had to be made on one side, while my brother drew the uterus in the opposite direction, before I could pass a common suture needle, armed with a strong double ligature, through the broad ligament between them. The pedicle was then tied very lightly above and below. At the moment of tying the upper one, or that embracing the fallopian tube, the patient complained of considerable pain. Additional force was now necessary to draw the tumor from the ligatures, so as to afford space between them to sever the ligament. It was much thickened and very vascular. The tumor was now removed on the right side. That formed by the left ovarium next required attention, and occasioned but little difficulty. It was covered throughout by peritoneum, and was unadherent, except by its natural attachment. As before stated, it filled up completely the left side of the cavity of the pelvis, the uterus being jammed closely between the two. It rose about two inches above the brim. Passing the fingers of the right hand between the side of the pelvis and the tumor, it was readily slipped from its bed, and given to held by the assistant. Another needle, armed with a double silk ligature, was then passed as before, and tied above and below. The patient complained of similar pain when the left fallopian tube was tied. The broad ligament was now divided and the tumor removed. The uterus, free from disease, remained standing upright in the pelvis, and shorn of its natural attachments. The cavity of the pelvis, which contained some blood and more serum (for very little hæmorrhage attended the operation), was now quickly cleansed by a succession of *very soft* sponges, rapidly handed to me by careful assistants. This I considered preferable to turning her upon her face, as was done in some previous operations, for the purpose of evacuating the fluids. Deeming it most advisable to remove the leather ligature around the omental arteries, as my leather ligatures had not been satisfactorily prepared, I did so, and replaced it by a silk one; one end of it was cut off close, and the other brought out at the lower orifice of the wound. No hæmorrhage followed the removal of the ligature, and on squeezing the extremity of the fillet of arteries, several circular coagula escaped from their mouths. The edges of the whole external wound were now carefully approximated and secured by seven *hare-lip* sutures—separated about an inch from each other.

Within a month, the patient, who had done perfectly well from the first, was up, and Dr. Atlee discontinued his regular visits. She recovered completely. In concluding his report of the case Dr. Atlee says :—

I cannot avoid remarking that it will scarcely be believed, that an incision between ten and eleven inches long could be made through the walls of the abdomen; the viscera exposed for half an hour; the intestines protruding for a portion of that time; the peritoneum extensively divided around the whole right side of the brim of the pelvis; both broad ligaments and fallopian tubes be severed from the uterus; six ligatures applied, and the cavity sponged; and yet, that no symptoms should arise to create apprehension or embarrassment. Yet such it will be perceived was the fact, incredible as it may appear, and I dwell upon it with hope the that it will present to the profession an inducement hereafter (added to the testimony already before us) to make a similar effort under similar circumstances. No one can be more disposed than myself to condemn the rash or wanton use of the knife which we frequently see exhibited. True surgery would seek to banish it, if

possible, from the list of remedies; and by a faithful application of such means as observation and experience have proved capable of exerting an influence upon the various functions of the body, endeavour to control its morbid states, and restore its primitive integrity. Unhappily this is not possible; our means are still too limited; resort must be had to the knife, and the case above detailed proves its efficiency and safety.*

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

The Principal Offices of the Brain and other Centres. By JOSEPH SWAN. 8vo. pp. 31. Longman and Co.

MR. SWAN has achieved an honourable reputation for himself as an anatomist. His "Demonstration of the Nerves of the Human Body," and his "Illustrations of the Comparative Anatomy of the Nervous System," are not only creditable to his dexterity as a dissector, but to his spirit as an author; for it is generally understood that these works are produced at the sole cost of Mr. Swan himself.

In the unpretending publication before us, we have the pleasure of meeting Mr. Swan as a physiologist. We can believe that the change from the regions of certainty—of simple physical quality, form, dimension, connection, &c. &c.—to those of speculation, cannot have been very agreeable to so pains-taking an observer as our author. And who shall say that the entire physiology of the nervous system is not yet to create—is not a kind of dream? Anatomy, however, if it will not reveal to us the office of any individual part—which it certainly will not—may still usefully serve us as a guide in our endeavours to discover function; there must at all events be harmony between structure and function. It is therefore with sincere pleasure that we greet the lucubrations of so accomplished an anatomist as Mr. Swan in the difficult department of physiological science which he has selected.

In a brief introduction he contrasts animals with plants, and shows what is necessary in regard to constitution or structure to each for the performance of its faculties. The nervous element is the seat of the SENSORY; and when this is aggregated into centres and nerves, it is fitted for receiving the soul—the Psyche.

SENSATION he defines to be a stimulus or impulse from mechanical or chemical agents on peculiarly formed external organs, and directed to centres specially constructed for receiving different kinds of them, and conveying them to the sensory. The quality of sensation is high according to the extent of the convolutions of the brain in proportion to the medulla oblongata; and a large brain requires and tends to maintain a high state of respiration. We were not prepared for the conclusion that where the intellectual faculties are to be much exerted, the respiration will be increased. The man of letters and the student surely consume less oxygen than the coal-heaver and the ditcher. Neither should we have imagined that the lungs of birds were small in proportion to their brain (p. 9.) The high temperature and rapid consumption of oxygen by birds, we had always held as synonymous with a largely developed pulmonic system.

PERCEPTION is defined to be an impression made on the nervous system, of which the animal is unconscious.

The cerebellum Mr. Swan does not agree in considering, with the French anatomists, as the part which regulates or co-ordinates motion. It is much rather an appendage of the brain, he says, than of the medulla oblongata and spinal cord, the acknowledged seats of the motory power. It does not correspond with the number and size of the sensitive and motive nerves; it is not required for the intellect, the special senses, common sensation, or volition; nor is it concerned in digestion or assimilation; and is not proportioned to the heart, lungs, chest, or any organ, nor yet to the reproductive faculty generally, although it must be confessed that this faculty is very active in the porpoise, where the cerebellum is very large (p. 11.) We rather think that Gall was right in his estimate of the function of this part after all. But we must refer those of our readers who take an interest in the physiology of the nervous system to the modest pamphlet itself, where they will find much valuable information in very brief space.

* American Journal of Medical Sciences January 1844.

An Account of Sir Charles Bell's Classification of the Nervous System. By ALEXANDER SHAW. Royal 8vo. pp. 30.

WERE we ambitious of being held in green remembrance among our contemporaries, and successors on the theatre of life, when we are dead, we should desire no more loving, or true, or persevering proclaimer of our deserts, than Alexander Shaw. Sir Charles Bell is his cynosure, his polar star, and he will not be satisfied unless we all consent to steer by that light, and to revere that name with a reverence equal to his own; to appreciate Sir Charles's discoveries even as he their faithful chronicler appreciates them. There is, however, something beautiful in the child-like devotion, the boundless admiration, with which Mr. Shaw evidently keeps his gifted kinsman in his mind's eye. It is of the same nature as that wherewith John Abernethy used to cherish the memory of John Hunter, and to coin the views and opinions he delighted in himself out of the love he bore the mighty name. We would not disturb Mr. Shaw in his admiration of Sir Charles Bell, but we seriously opine that Sir Charles's presence in the world has already had its effect; and that the arena may now be safely left to the men who have succeeded him, pigmies for the most part, it may be, in Mr. Shaw's estimation, to him, but yet possessed of all that Sir Charles knew, and something which Sir Charles did not know. *He was a great man*, and whoever speaks of the structure and functions of the nervous system through all the generations of men that are yet to come, if lamp-black in oil impressed on old rags hold good, must quote his name. Let this suffice Mr. Shaw, and we trust we shall now find him turning his powers to the advancement of science on his own account, which he is extremely capable of doing.

The work before us is intended as an appendix to the third edition of Sir C. Bell's work, "The Anatomy of Expression," recently published, and is in fact another account of Sir Charles's mode of procedure, and of the results at which he arrived. It must be interesting to the laity, who are altogether unacquainted with the anatomy and physiology of the nervous system, but contains nothing that the professional reader will find new. It is nevertheless apparently a necessary supplement to the book on Expression.

MEDICAL GAZETTE.

Friday, April 12, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO

THE POSTHUMOUS FAME OF MEDICAL MEN.

WE all know what gods we are in the eyes of our patients—when they are seriously ill; how little they think of us, with what slender courtesy they treat us—when they have got quite well. The eagerly expected visit, the confidence in, the dependence on us, are not more remarkable in the first case, than are in general the indifference, the coldness, the want of sympathy with us in the second. The truth is, that the wealthy and the great are generally afraid of the accomplished and philosophical physician or surgeon, intimately acquainted with the springs and motives of human action as he necessarily is. They have a higher nature in their presence, which over-crows them; and human pride and human infirmity cannot stand the proof; they shrink before it, and rather dislike and fear, than love it. This feeling is at the bottom of the preference which the aristocracy of all countries, and of England in especial, so frequently show for ignorance and blind empiricism—for the anointings of a St. John Long, the abracadabra of the druggist Hahnemann, the duckings of the peasant Priesnitz, &c. &c.

With the same measure that the world are disposed to mete to us during our lives, do they still continue to measure to us after our deaths. The fame of the medical man is not even so enduring as that of the great actor. By

what strong memorial do the public cherish the remembrance of the gifted Abernethy? They name a biscuit after him. Of the brilliant Cooper? some speculative druggist has christened a pill by his name. Of the great Dupuytren? a perfumer embalms his public memory with a pomatum for the hair! Sic transit gloria! Mr. Abernethy always estimated posthumous fame at what it is probably truly worth, and no more: "Were I thirsty," he would say, "I would give the posthumous fame of Buonaparte, could I command it, for a drink of small beer!" Brave old John, kind-hearted, eccentric old man! Nor shall thy fame for better things than biscuits yet die out from amongst us thy brethren, for some considerable time to come! Though thy kindred wrote trash upon thy tomb-stone, and the bakers have kneaded thee up with their dough, the influence thou hadst on medicine will survive when the memory and the knowledge of thy being shall have passed away!

And this brings us to the point we were driving at. There is no sure abiding place for us here below—whether in the body, or in that kind of spirituality which we entitle posthumous fame. He who did this or that passes away; the knowledge of him who did it is lost in the night of ages; but the deed itself, the thing done, remains, and has its influence to the end of time.

Our business, therefore, is honestly and pains-takingly to perform the part assigned us, without regard to our particular fame, satisfied that what we do for good will will never be lost to our fellow men, and that though we neither leave our name to a biscuit like John Abernethy, to a vegetable pill like Sir Astley Cooper, to a sauce like Dr. Kitchiner, or to a pomatum for the hair like the Baron Dupuytren, our spirit will still be present in the world when the body that enshrouded it is resolved into ashes and air, and all knowledge that such a man had ever been has passed away.

VENTILATION OF THE ROYAL MEDICAL & CHIRURGICAL SOCIETY.

We venture very humbly to suggest to the Council of this Society, that the room, in point of ventilation, is a disgrace to them, who govern, and to the Fellows at large, who submit to such misgovernment. If we be too numerous a body, and the object be to get rid of a certain number of us by suffocation, let the purpose be made known, a' God's name, and we shall come to the Society knowing what is intended for our entertainment. We venture to suggest the addition of *sulphur fumes* to the already delectable atmosphere of the place. A penny or twopence spent in *brimstone* each night of assembling, would be money well and pleasantly laid out, and the thing only wants this to be made quite perfect. We, however, are neither Shadrach, Meshach, nor Abednego, and must positively decline being put into any such fiery furnace as the room of the Royal Medical and Chirurgical Society, for the future. How those poor gentlemen, the secretaries, find breath for their duties we can scarcely understand; it must be "the strong will," "the indomitable courage," — such as possessed Milton's heroes in Pandemonium — that carries them through; and as to Mr. Hancock and Mr. Lloyd, and the other voluntary speakers in ordinary to the Society, how they muster resolution to make such an effort as talking needs must be in such an atmosphere, we are totally at a loss to comprehend: it must be a very powerful motive indeed that induces so desperate an effort.

Let the president, vice-presidents, and council, turn forthwith to some elementary book on physiology — Mr. Williams may bring them in Bostock or Müller at their next meeting, and refresh their memories with the facts — they must have forgotten them—that man requires from ten to thirteen cubical inches of *atmospherical air* for each respiration, and that he makes from fifteen to sixteen such respirations

in a minute. We must have made at least twenty-five the last time we were there, but our lungs seeemed disposed to do with as small a quantity of the "congregation of pestilential vapours" as possible, and we probably did not consume more than eight or nine cubic inches at each inhalation; but say the quantity was ten cubic inches, and the respirations fifteen: $10 \times 15 = 150$ cubic inches per man, per minute; $150 \times 60 = 9{,}000$ cubic inches, or 3,000 cubic feet per man, per hour; $3{,}000 \times 1\frac{1}{2}$ hours, the length of the meeting,=4,500 cubic feet per head; taking the number present at 100, this would give a consumption of 675,000 cubic feet of air for the hour and a half during which the meeting lasted; but the Society's room is not more than a cube of about 35 feet in the side, and consequently contains no more than 42,875 cubic feet of air; it would therefore require to be totally renewed at least fifteen times during the time of the meeting, in order to be kept sweet and wholesome. Let Dr. Arnott, or Dr. Reid, be forthwith entreated, in sheer humanity and brotherly professional regard, to tell the council how they would proceed to secure the needful supply of air to 100 wretches confined for one hour and a half in the black hole of Calcutta; and if they use the means suggested for this extreme case, they will exactly hit the exigencies of the room in Berners Street. If they do not get such information, and act on it, against next meeting, we trust they will be ready with the brimstone.

NERVES OF THE GRAVID UTERUS.

From the following corrigendum inserted at the end of Dr. Lee's lectures, it now appears that Dr. Hunter never examined the nerves of the gravid uterus. "In the first lecture, at page 11, it is stated that 'Dr. W. Hunter was the first who distinctly traced the great sympathetic and sacral nerves into the uterus, and suspected that the nerves enlarged during pregnancy. As he never examined the nerves of the unimpregnated uterus, and saw the nerves of the gravid uterus dissected only in one subject, he could not possibly assert that they increased after conception.' And in Lecture XI. at page 98, it is re-stated that 'Dr. William Hunter was the first who examined the nerves of the gravid uterus, and suspected them to be enlarged in proportion to the vessels.' A learned and ingenuous friend has called my attention to Dr. Hunter's own words, which are as follow, and which certainly do not bear the interpretation I have put upon them:—'*I cannot take upon me to say what change happens* to the system of the uterine nerves from utero-gestation, but I suspect them to be enlarged in proportion as the vessels are. Upon this occasion we profess only to give the anatomy of the gravid uterus; yet since the descriptions of the nerves of the uterus which I have read seem to me unsatisfactory, I shall so far go beyond my subject as to describe the hypogastric nerves, such as they appeared to me in a female subject carefully dissected for that purpose.'

"It is now obvious that I had misunderstood altogether the meaning of this passage, and supposed that Dr. Hunter had examined the nerves of the gravid uterus, when he referred merely to a dissection of the nerves of the unimpregnated uterus. No injustice to Dr. Hunter has resulted from this mistake; but it is not improbable that a recent editor of Dr. Hunter's work on the gravid uterus has been led by it to commit the following egregious error. "Indeed, when we carefully peruse the last paragraph of Dr. Hunter's chapter on this subject, (which is quoted verbatim Lecture XI. page 100), we cannot help coming to the conclusion, that it still contains the chief, if not all, of what we know for certain about the nerves of the gravid uterus.'"

DISPENSARIES FOR THE RELIEF OF THE SICK POOR*.

It seems that some time ago there was a considerable feud among the governors themselves, and then between the governors and the medical officers of the Brighton Dispensary. On the foundation of that establishment, the medical staff consisted of two physicians and two surgeons; and so it continued, until from circumstances, a temporary difficulty was experienced in procuring the services of physicians [when could that have been, where was duty to be done for nothing!]

* A Letter to the Governors of the Brighton Dispensary, On the Constitution of Dispensaries for the Relief of the Sick Poor; by a Medical Practitioner. Brighton: H. King.

when the staff was reduced to three surgeons or general practitioners. This reduced number of medical officers has been permitted to continue in charge of the Dispensary, although the number of applicants for relief has increased to nearly double that which it was a few years ago, when there was not only a larger but a differently constituted medical staff to attend upon them; and so disproportionate have the demand for assistance and the means of supplying it become, that it is calculated each surgeon sees forty patients on the day of his attendance at the Dispensary.

It was proposed, on account of this great increase in the applications for relief, to double the number of medical attendants; and to appoint physicians as well as surgeons to the Dispensary. By such an arrangement also, it was supposed that the cases of those who were too unwell to attend at the Dispensary, but who must be visited at their own houses, could be placed under the care of the different senior medical officers, instead of being left, as at present, to that of the "house surgeon," who, it may be presumed, however talented and diligent, cannot usually have had the experience of the "ordinary" medical attendants; and who has other important duties to perform at the Dispensary, almost incompatible with that of making fifty or sixty visits a day upon the sick at their own dwellings.

These reasonable propositions, however, were twice rejected by a majority of the few governors who usually attend the general or special meetings, on the grounds, as it was said, that the poor had not complained of the present arrangements; and that the medical officers now in charge had not sought assistance or declared their inability to attend properly to the greatly increased number of cases. These are the circumstances which have called forth the clever letter of the Medical Practitioner, in which there are too many good things to be lost. Some of these we take it upon us to impart to our readers.

"But how," proceeds the letter-writer, "is it possible that the cases of forty patients, a great proportion of which come before the medical attendant for the first time, can be properly investigated in one day, and notes taken of the important circumstances of each for subsequent reference during the treatment, by a surgeon whose subsistence depends upon other laborious occupations, and much of whose time must be devoted to reading and study, in order to keep pace with the rapidly progressing science of his profession?

But slight affections, it may be said, and the majority of applicants at the Dispensary complain only of these, do not require so much care. There cannot be a greater mistake. As far as regards internal disease, these slight affections are generally such as it is most difficult to ascertain the nature of, and often also, as respects the treatment, the most important. It is easy to detect great organic change; but it is too frequently only in the beginning of disease, and before disorganization has taken place, that medicine can much avail. If this opportunity be lost, the patient's life may be rapidly brought to a close, or become a wearisome burden to himself. No fact is better established than that the greater number of diseases become severe or incurable from neglect or improper treatment on the part of the patients themselves, or the practitioners whom they consult, in their incipient or early stages.

To detect the seeds of disease only beginning to germinate, and to eradicate or destroy them before the constitution is fatally vitiated by their presence, is a task difficult to the most talented and the best informed. The nicest discrimination is often necessary between the disease itself and those merely sympathetic disturbances occasioned by it, in order that remedies may be applied to the real source of the evil. In private practice, the care and attention required for such discrimination is commonly given. The practitioner's reputation and interest are here too much at stake to admit of superficial inquiries, unless his *fashion* be a substitute for every important qualification. Few medical men can dare to appear satisfied with an enumeration of the general symptoms, where percussion and auscultation are applicable, and without frequent inspection, and sometimes chemical examination, of the secretions. The interest of the practitioner is generally the safeguard of the patient in private life; but how are matters carried on at public institutions? If a practitioner overburdened with private practice cannot bestow the requisite degree of attention on the cases of those who consult him, he has at least a plausible, though far from sufficient apology, in the consideration that his patients, being generally well-informed people, must be sensible of this as well as himself, and that their employment of him to *guess* at their diseases is perfectly optional. But it is otherwise at public institutions: the poor who apply there have no choice; and, consequently, the practitioner who undertakes their cases has no excuse for carelessness or neglect.

Nor is it that there is any difficulty in procuring the services of a sufficient number of properly qualified medical officers for these charitable institutions. Those attached to them, indeed, are often notoriously (from the defective mode of election) not always the most able; and there would generally be applicants of at least equal talent and

character, for three times the number of offices. But the distinction to the medical officer in possession would then be less, the prize would not then be so valuable; and society is not generally aware that the men who are most eager for such prizes and distinctions are not always those whom it is most for its interest to foster. Inquirers into science for its own sake, seek every opportunity for its cultivation regardless of such advantages; but they are too often unfitted, by the constitution of their minds, to submit to all that is necessary for successful competition.

After these observations upon the necessity of increasing the number of medical officers of the dispensary, the Medical Practitioner proceeds to point out the advantage that would arise from part of these being physicians, and part surgeons, which he defends on the principle of division of labour. The Court of the Society of Apothecaries, in a circular respecting dispensaries as medical schools, issued a few years ago, ordain that "no dispensary will be recognised by them as a school of practical medicine which (if within the limits of the jurisdiction of the College of Physicians of London) is not under the medical care of *at least* two physicians, each of whom is a fellow or licentiate of the said College; and if beyond these limits, that is not under the care of *at least* two physicians, who, if not so qualified, are graduated doctors of medicine of a British university, of four years' standing." (MEDICAL GAZETTE, vol. xi. p. 671.)

If the proper number of physicians could not, at any future time, be obtained for the Brighton Dispensary, the deficiency could be supplied by an increase in the number of the surgeons; and if the nomination of either were left to the judgment of a small body of the governors, competent, from their education and other circumstances, to make a proper choice, it would be a vast improvement on the existing system of election. At present, the man who starts first in the race, or who runs fastest, is the most likely to succeed, provided that each has an equal proportion of bronze in his composition, to enable him to urge his requests with sufficient importunity, and to bear patiently with the contumelies of his canvass.

After these remarks on the advantages of increasing the number of medical officers, and appointing men of different departments of the profession, our Practitioner proceeds to answer the objections that have been made to these proposed alterations.

No complaint, it is alleged, has been made by the poor against the present arrangement. Whether this be the case or not, I have no means of ascertaining. But granting that no complaint has been made, what would this signify? Are the poor competent judges of the degree of attention which their cases may require, or of the capability of those who attend them? Nay, their confidence in the medical man's skill may sometimes be in an inverse ratio to the time he expends in investigating their diseases. How clever, they may think, (and wiser persons than most of the poor, occasionally commit the same mistake) must this man be to discover at a glance the nature of our maladies! The poor are only fastidious about the medicine which they receive; if this be abundant, they care very little whether he or she who prescribes it has become initiated in the art of prescribing by long-continued observation and study of medical facts, and the perusal of ancient and modern medical writers of celebrity; or by consulting for receipts to cure, as a cookery-book is consulted for receipts in cookery, forgetting Mrs. Glasse's directions, "First catch the fowl," *i. e.* First establish the diagnosis, &c. There are bountiful dispensers of medicine of the latter class at Brighton, who enjoy a reputation for skill which the "regularly bred" may well be envious of. And if a minute or two is all the time that is dedicated to the consideration of their cases, the poor can scarcely avoid coming to the conclusion that the choice of medicine, or its appropriate exhibition, is a matter of minor importance.

Yet variety of physic, to a certain extent, is looked for by the poor, as well as abundance. The writer was told by a gentleman connected with the Poor-Law Commission, that only one of the thousand Union surgeons in the country (elected by the lowest tender, and consequently not all necessarily luminaries of the brightest lustre) had been dismissed from his office, on a complaint of the poor affecting his professional character. They received *plenty* of medicine from him, they said; they had no complaint to make against its quantity; but they could not understand the reason, various as their diseases were, of their being all supplied, without distinction, out of *one* bottle.* Yet this

* In *Lancet*, Nov. 25, 1843, will be found an account of another dismissal of a medical officer by the Poor-Law Commissioners. In this instance the complaint was not against the quality but against the *quantity* of the medicine. This surgeon is dismissed for treating his patients *homœopathically*, which must be quite as distasteful to them as the "one bottle" system. The conduct of the Poor-Law Commissioners in this proceeding is unobjectionable. If the rich and well-informed choose, in spite of common sense, to be treated homœopathically or hydropathically, there is no help for it; but the poor have no choice in the matter. As regards those who prefer being so treated, it is much to be regretted that the hazardous experiments which they are willing to make, and for which their fellow men ought to be much obliged, should fail in effecting all the benefit which they are otherwise calculated to produce, from the want of adequate observers

licensed destroyer, had he given them due variety as well as abundance of physic, would, probably, on account of this being free from cost, have been preferred by the poor to the most distinguished practitioner not having the power of ordering them medicines gratis.—An apothecary, some time since, became the oracle of his neighbourhood by studying the tastes of his customers as regarded quantity and quality of physic, as well as by an ingenious mode of appropriating his drugs to their several ailments. Standing behind the counter with grave demeanor, and holding a large empty phial in his hand, he commenced his examination of the patient, and continued pouring into the phial at intervals, as the examination proceeded, a little of the contents of the various bottles on his shelves, according to the enumeration of the various symptoms, until the list was finished, or the phial was full; each addition, receiving, of course, the character of being a specific for the particular pain, sickness, or weakness described. A little incongruity was of no moment in the composition of this medical shrapnell; one part of the mixture might have been pronounced a refrigerative for the hot stage of the patient's fever, and another, a cordial for the cold stage; part may have been intended to dispel his drowsiness in the day, and part to remove his sleeplessness at night.

I doubt very much whether an intelligent practitioner condemning the pernicious system of pouring "doctors' stuff" into the throats of all who apply for relief (a system adopted by certain alumni of the mechanical school, who wish at once to expel the disease by their substantial administrations, and prevent its return by filling up every vacant space), and limiting his prescriptions, in appropriate cases, to little more than regimen, would not be complained of by the poor, as depriving them of what they considered essential to their cure; while their praise would be awarded to the blockhead who is ignorant that, although it is professional and classical to stuff an alligator, it would often be as bad practice to stuff a patient as to shake one. And yet we are told that the satisfaction or dissatisfaction of the poor with the system in question is to be the criterion of its eligibility!

Are the richer and better informed classes always competent to form a correct opinion of the merits and capabilities of their medical attendants, or of their habits and modes of practice? Are they themselves always proof against the various tricks of self-eulogium and rival-depreciation, of hypocrisy and cant? Do not we, every day, hear the moral and medical excellencies of ignorant pretenders to medical science, whether licensed or unlicensed, trumpeted forth by persons who, in all other things, evince sound judgment and practical good sense? St. John Long, who put healthy young women to death by his plan of *preventing* consumption, was patronized and defended by peers and peeresses, by a colonial governor, and senators of renown.

The other reason alleged in objection to the proposed alteration at the Dispensary is, that the medical officers now atttached to it have not called for any thing of the kind, and that they would consider the change an imputation on their professional character. The latter idea scarcely requires serious refutation. Were they Hunters, Potts, and Abernethys, the same necessity for alteration would exist. However high the genius or talent of a man may be, it requires a certain portion of time for its exercise. The present officers of the Dispensary are men of ability and irreproachable character, exerting themselves, no doubt, to the utmost of their power in promoting the objects of the charity; and nothing would give me more pain than that any thing which this letter contains should be construed into a reflection on any of these gentlemen personally. Much may be due to them for their services; but in attending to their interests (which, it may be thought, are promoted by permitting them to have the exclusive medical charge) the interests of those for whom the charity was founded must not be neglected.

As respects the interests of medical men, it would accord, no doubt, with those of a smaller number, to have possession of such a charge in an hospital or dispensary; *but does it not oppose the interests of others, of equal merit and having equal claims, to be excluded from it?* Why should those possessing no advantage as regards strength of mind or intellect, but only as regards strength of legs and countenance (see remarks above), be allowed the exclusive occupation of such avenues to reputation and fortune, to the prejudice of others whose superiority and modesty prevent their resorting to the practices necessary to ensure success at the election? The present system of appointing so small a number of medical officers to these institutions (and for life) is a gross injustice to the profession as well as to the poor.

A dispensary is, in truth, a blessing or a curse to the community, according as it is well or ill administered. If well conducted

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and credible reporters. For assuredly, much advantage to medical science would accrue from the accurate observation of the unaided and undisturbed efforts of nature in the cure of disease under homœopathic treatment; and from the observation of the effects of such powerful agents for good or evil, as sudden changes of temperature, and the continued exhibition of large quantities of water, in all diseases and under all circumstances, according to the true and genuine hydropathic system.

by a body of sensible and well-informed men, devoted only to the welfare of the poor, it is a noble institution, reared in that truly christian spirit which labours to make amends for the inequalities of fortune, and to lessen those evils which the inevitable poverty of many must bring upon them. From it the sick poor may be supplied with the best and *speediest* assistance; while its numerous talented and zealous medical officers not only become better practitioners themselves by the experience thence derived, but have the opportunity of contributing towards the advance of the healing art. Where does such a dispensary exist? If, on the other hand, a dispensary is administered badly, if other interests than those of the sick have paramount influence in its management, it becomes a lure to the poor for their destruction, and has all the evil effects on its medical officers which have been noticed above.

These observations have more than a local bearing; they apply wherever there are dispensaries, and contending interests of medical men; that is to say, to every town and city in the empire. The letter had its effect; for though the proposal to increase the medical staff was negatived at the two meetings that took place before its appearance, the motion was entertained, and carried, as we are informed, at the one held immediately afterwards.

CASE OF RECOVERY AFTER THE ARM AT THE SHOULDER-JOINT WAS TORN OFF BY MACHINERY.

A BOY, seven years of age, while playing about a sugar mill, was caught by the machinery, and before he could be extricated his left arm was torn off, bringing with it about two-thirds of the scapula. The deltoid muscle was torn off entire, and the clavicle was wrenched from its attachment to the trapezius muscle, and projected through the wound. Notwithstanding the large amount of surface exposed not the slightest hæmorrhage occurred. It was judged prudent to remove the remains of the scapula, the inferior and posterior portion alone remaining, and also to saw off the external third of the clavicle which protruded through the wound. No vessels required to be tied; the wound was closed by sutures and adhesive straps, and a compress with a bandage round the body completed the dressing. Every thing went on favourably. The feverish reaction was inconsiderable after the first day. By the fifth day it was found that the half of the wound had united by the first intention, and that the remainder was suppurating favourably. The sutures were therefore removed, and from this time he rapidly recovered.—*New York Journal of Medicine.*

QUARANTINE.

M. AUBERT ROCHE has addressed a letter to the Academy of Medicine on this subject, in which he states, 1st, that Austria and England have abolished their quarantines; France has retained hers, therefore the sanitary regulations of Europe require reform. 2dly, Every ship that has arrived in Europe without plague has remained unattacked.

The reform proposed is founded on the assertion, easily refuted if false, that all cases of plague have occurred within eight days after the departure of the ship: the observations on which these assertions are founded extend over a period of 124 years. Scientific authors have been of opinion that the period of incubation may exceed eight days. These cases occurred, however, on shore, not on board ship at sea. The plague, it is said, may be carried; but this will signify little if, in all cases where it has been carried—and 64 such have occurred in 124 years—it has broken out at sea on board ship. M. Aubert insists strongly on facts and figures, and contends that no one fact can be adduced to refute his two main assertions; viz. that plague shews itself at sea within eight days after departure, and that a ship which arrives unattacked with plague remains so.

M. Chassinat, in a letter on the other side, cites the case of the Leonidas in 1835. This packet left Constantinople the 27th July, and Smyrna the 30th, both places being infected at the time with plague. On August 10th, a case occurred supposed to be gastro-enteritis; a second, and subsequently a third case ensued; the last proved fatal, and undoubted plague followed. M. Londe offered to prove, by official documents which he had seen, and would lay before the Academy at their next meeting, that the first case on board the Leonidas appeared within the first eight days.

This offer was accepted, and the letters of MM. Aubert, Roche, and Chassinat, were referred to the publishing Committee.

TUBERCULAR PERITONITIS.

THE symptoms of tubercular peritonitis are generally slight, not numerous, and frequently are unnoticed. They are, however, quite sufficient to warrant a positive diagnosis. The invasion of this disease has no fixed relation with the main affection, and may occur at any period of its progress. The first symptom of chronic peritonitis is enlargement of the abdomen, denoted by the uneasiness in his clothes which the patient experiences, if up and about. With this

there is dull abdominal pain, sometimes general, (either singly or co-existent,) increased by pressure and percussion, and unaccompanied by diarrhœa. Later, and at a very variable period, physical exploration, however, reveals *fluctuation:* and *meteorism*, to a greater or less degree, will be ascertained. After increasing to a certain extent, fluctuation will *diminish*, whilst the gaseous distension *persists*. Where abdominal meteorism is present fron the commencement of the disease, without appreciable effusion, it will diminish after some time, leaving the abdomen firmly resistant under pressure, knotted, and the intestinal convolutions marked on the surface; and this tense elasticity persists with complete relaxation of the muscular parietes. Nausea and vomiting rarely occur, unless acute peritonitis should supervene. There is great diversity in the intensity of the rational symptoms; sometimes the feeling of uneasiness, or even positive suffering, is so great as to occupy constantly the attention of the patient; at other times there is entire absence of pain, and the physical signs alone announce the existence of the affection. Ordinarily, the symptoms just enumerated persist, or increase, till death occurs; but sometimes, when the disease is intensely chronic, the abdominal symptoms disappear, and the thoracic symptoms only attract notice. This happened in the first case. Sometimes abdominal effusion is absorbed with great rapidity, and, on examination after death, you find only general intestinal adhesion by recent false membrane, when, but a few days before, there was positive evidence of fluctuation.

The symptoms of chronic peritonitis, though few, are of great value, from their constancy and regularity, in reference to diagnosis. Dr. Louis places the greatest confidence in them, and states (Recherches sur la Phthisie, 1843, p. 272) that through them he has been led to the successful diagnosis of phthisis in persons in whom there was little or no cough, and where the most careful physical exploration gave no evidence of thoracic disease.

To resume, we may say, that where we have general abdominal pain, of moderate intensity, but still sufficiently annoying, without diarrhœa, accompanied with increase in the size and sonorousness of the abdomen, with the supervention of manifest fluctuation, and independent of any organic affection of the viscera, the liver especially, kidneys, or heart, with subsequent absorption of the effused fluid, leaving a slight, but general, gaseous distension, with the intestinal convolutions well defined, and with this, great loss of strength, which cannot be referred to the condition of the lungs or of the excretions,—when, we say, we have this combination of symptoms, we may, with great safety, diagnosticate tubercular peritonitis.—*Philadelphia Medical Examiner.*

NEW PRACTICE IN THE REDUCTION OF A DISLOCATED THIGH.

W. Janig, aged 32, a strongly-built, muscular man, in struggling with another man, who was attempting to escape from prison, rolled down from the top to the bottom of a flight of stone stairs, twenty-four in number. On reaching the ground he felt severe pain in the left hip, but sprung to his feet and attempted to follow the malefactor; the left leg, however, failed him at once, and he fell prostrate again. A dislocation of the head of the thigh-bone downwards and backwards was immediately detected, and attempts, continued for several hours on two occasions, after the use of the warm bath, venesection and tartrate of antimony, were made to replace the bone; but in vain. Further assistance was sought, and next day, the patient having been again bled to fainting, and kept for a long time in a hot bath at 100° F., a third very determined effort to reduce the dislocation was made; but with no better success than on the two former occasions: the head of the bone could be brought to the edge of the acetabulum, but there it stuck as if wedged, and the moment the extension was relaxed it slipped back into the sciatic notch. It was now resolved in consultation to make the patient *dead drunk*, with a view to effecting the reduction; and the landlord of the house where the patient lay, having been taken into confederacy with the doctors, the new ally kindly gave the patient a *bottle of port wine, and half a bottle of rum* in divided doses, in order to *refresh* him, so that when the confederates returned, they found the man "in a *soporose condition*, and evidently in the *desiderated state of universal muscular collapse.*" The patient was lifted out on his mattress, and the reduction was now accomplished without his appearing to know anything about the matter. The patient was very long of recovering the use of his limb in any considerable degree, and seems narrowly to have escaped with his life from an attack of gastric nervous fever during his convalescence from the injury. He is probably lamed for life.—*Casper's Wochenschrift*, No. 9, 1844.

THE ROYAL ACADEMY OF SCIENCES, PARIS,

Have awarded a prize of six thousand francs in equal moieties to M. Stromeyer of Hanover, and M. Dieffenbach of Berlin,—To Stromeyer, for having first conceived the operation for squint, and shown its practicability on the dead body; to Dieffenbach, for having first

successfully performed the operation on the living subject.

The Academy have further recompensed Messrs. Bourgery and Jacob with a sum of five thousand francs, for their Iconography of Surgical Anatomy and the Operations of Surgery.

The Academy have still further rewarded M. Thibert with a sum of four thousand francs, for his imitations of morbid structures, in a kind of papier maché, (carton-pierre), coloured, which, say the Commissioners, "reproduce every variety of morbid structure with the greatest fidelity in regard to form, relief, and colour, and with the strictest attention to the last minutiæ of detail."

The Academy have still further decreed a sum of three thousand francs to M. Longet for his work On the Anatomy and Physiology of the Nervous System of Man and the Vertebrata, as containing "a great number of facts relative to the diseases of the nervous system, which scattered, and isolated hitherto, are here collected, collated, and discussed in a very complete manner. And to M. Valleix they have voted a sum of two thousand francs for his work on the Neuralgiæ, as calculated to advance the healing art, and to improve the diagnosis and therapeutics of an important class of diseases.

They have finally desired that honourable mention be made of the inquiries of M. Amussat in regard to the wounds of arteries; of the work of Messrs. Serrurier and Rousseau upon the Diseases of the Air-Passages of Man and certain Animals; and of the treatise of Dr. Ph. Boyer on the treatment of Ulcers by means of compression effected with strips of adhesive plaster.—*Comptes Rendus*, No. 9, 1844.

PRESERVATION OF PATHOLOGICAL SPECIMENS.

M. Pigne announces that a solution of creosote, in the proportion of 4, 5, 6, 8, or 10 drops, according to circumstances, to the litre or pint and three-quarters of water, forms an excellent and of course very cheap liquor for the preservation of pathological specimens. An entire subject, or any portion of it, kept in the solution of 10 drops, preserves all its physical characters and properties unchanged for an indefinite length of time. Pathological specimens that have been shrunk and blanched by twenty years keeping in spirit, are very speedily restored to their original form, size, colour, and pliability, by being transferred to the creosote liquor. Portions of blood, pus, urine, &c. may be kept in it without undergoing any change, and examined at leisure.—*Gazette Médicale de Paris*, Mars 9, 1844.

ILEUS FROM A

TURNING OR TWISTING OF THE BOWEL ON ITS AXIS.

A man, in loading his waggon with clover, had occasion to mount and jump down again repeatedly, after which he was taken with colic pains and obstinate constipation. All remedies and means were vain, and the patient died on the fifteenth day of his illness. The ileum at its lower extremity, where it terminates in the cœcum, was found simply turned or *twisted upon its axis*. The turn was single, but the piece of intestine was as securely confined as if it had had a noose of thread cast over it. The small intestines were slightly reddened, and excessively distended with gas; the great intestine, on the contrary, was pale and contracted. The twisted portion of gut being set free, it was found quite pervious and uninjured. Would the use of quicksilver have been of any service in this case?—*Dr. Koschny, in Casper's Wochenschrift*, No. 4, 1844.

GELATINE AS AN ARTICLE OF FOOD.

The nutritive or non-nutritive qualities of pure gelatine have so frequently been made the subject of question and inquiry, that it is one which is now somewhat flat and stale. Nevertheless, the point is interesting in itself, and has not yet been held as definitively settled. The Institute of Amsterdam have gone into it very lately, and have come to the following general conclusion upon what appears to be very sufficient grounds, viz.:—That gelatine has no nutritious qualities when taken by itself, and it acquires none when combined with other articles of diet.—*Comptes Rendus*, 11 Mars; and *Gaz. Méd. de Paris*, 16 Mars.

HEATING POWER OF THE SUN.

Few of those who have not turned their minds to the particular study of Heat, have estimated at its full amount the calorific power of the sun. We seldom, in these latitudes, find bodies exposed to the direct rays of the sun to attain a higher temperature than is indicated by about 120° Fah. But the celebrated M. de Saussure, by means of a little box constructed of wood, and lined with charred cork, obtained a temperature of 221° Fah., the temperature of the external air being at the time 75°; and Professor Robison, in the cold climate of Edinburgh, by means of a somewhat similar apparatus, frequently obtained an indication of 230°, and once, circumstances being favourable, of 237° Fah. The sun's rays, therefore, not *concentrated* in any

way, but simply *accumulated*, have a temperature much above that of boiling water, in the 52nd parallel of northern latitude.

FIBROUS TUMOR OF THE BREAST.

The Royal Academy of Medicine of Paris have lately spent several days in discussing the above-named subject, which had been introduced by M. Cruveilhier. There seemed, however, very little light to be obtained upon the matter. The learned mover of the question failed to shed any, and each successive speaker appeared to be more in the dark about it than the other. A correspondent of the *Gazette des Hôpitaux* (No. 33), explains the dilemma in which the honourable Academy found itself placed in a very satisfactory manner. He says, "M. Cruveilhier, a conscientious and enlightened physician, and moreover a Professor of Pathological Anatomy, comes down to the Academy one fine day, and delivers himself in these terms: 'Gentlemen, there are fibrous tumors of the breast, and they are common.' Now it was obvious to us all along that no member of the Academy had ever seen one of these tumors, so that it would have been very natural for some one to have said, 'Will the Professor be good enough to show us one of these bodies, for I myself have never either touched or seen such a thing?' But no; one was fearful of hurting M. Cruveilhier by seeming to call in question his information and good faith; another was afraid of exposing his own want of information, and so damaging his reputation: what a dilemma, had some journal published such words as these,—'M. X. never saw a fibrous tumor of the breast, a disease, nevertheless, which is very common;' and a third, by so simple a question, would have cut short all discussion, and seen himself forced to keep his eloquence bottled up, which would have been very distressing to him. These and various other reasons account for the circumstance that no one said to M. Cruveilhier, *there is no such thing as a fibrous tumor of the breast.* No one went further than to say, there are *few* fibrous tumors of the breast. Hence the harangues which we have been compelled to abide, and those with which we are still threatened.'

A CASE OF IMPERFORATE HYMEN.

By Wm. Shultice, M.D., of Mathews, Va.

On the 12th of October, 1843, I was called upon to visit Miss G., of this county, a young lady, ætat. 18 years, who had enjoyed uninterrupted health until within the two years last past. Upon examination I found her afflicted with the bilious remittent fever of the season, for which I treated her in the usual manner.

Her mother informed me she had a "lump in her side" which she did not like, and which caused her much uneasiness, and desired me to examine it. I discovered upon examination a considerable tumor in the abdomen, reaching as high as the umbilicus. The patient presented the appearance of a female about seven months advanced in pregnancy.

I stated to her and her mother the necessity of an examination per vaginam before I could form an opinion as to the true nature of her disease. Her mother had informed me she had never menstruated. Upon making the examination, to my surprise, I discovered, that the os externum was completely closed by a dense, unyielding membrane, which presented an impenetrable barrier to the finger, and of course obstructed the passage of the catamenia, and caused the tumor in the abdomen.

I immediately informed her and her mother of the necessity of an operation for her relief. At first the idea of such an operation was revolting to her feelings; but the necessity for its performance was so plain, that she consented.

After a few days, when the fever with which she was affected had subsided, I performed the operation by placing her on the edge of the bed, in the position for lithotomy. Upon opening the labia externa a tumor presented itself, protruding externally as if pressed outwards by a fluid internally. To the touch it appeared to yield. The hymen closed the vagina completely from the perineum to the orifice of the urethra, and of course presented an obstruction to the passage of the catamenia.

With a large abscess lancet I made a free incision through the hymenial membrane, and there immediately ensued a gush of a dark, grumous fluid, of the colour and consistence of tar. It was not coagulated, neither did it emit any odour, but presented exactly the appearance described by Denman, in a similar case. As related by him, the only change the menstrual fluid appeared to have undergone, was a lessening of the more fluid parts by absorption.

The fluid continued to discharge until six pounds had passed, when the pulse becoming feeble and the patient exhausted, I enlarged the orifice by means of a probe-pointed bistoury, and placed a tent between the parts to prevent adhesion. She was then placed comfortably in bed, and some stimulants administered.

There continued to flow through the vagina, for several days, the same dark, grumous fluid, until, from the information I received, at least two more pounds must have escaped, making in all eight pounds of menstrual fluid.

The health of this young lady had been for

about two years affected. She had been during that period, attacked monthly with pains in the back and lower part of the abdomen, which were ascribed to a want of the natural secretions. But neither she, nor her friends, had the most vague idea of the true nature of her situation. The tumor in the abdomen has entirely disappeared, and her health is rapidly improving. — *American Journat of Med. Sciences*, Jan. 1844.

THE AMERICAN EDITOR'S TRAVELLING EXPERIENCE AMONG HIS COUNTRYMEN.

In leaving the country watered by the Alabama, Coosa, and other beautiful rivers, we may be permitted to say, that in forty days' active travel we have everywhere met with the greatest hospitality. We have encountered neither robbery nor insult, nor more than a dozen drunken men, nor seen a single bowie knife, nor a fist-fight, nor heard six doctors backbite their brethren, nor spoken to one tippling physician, *nunc rara avis!—The Western Journal*, No. 43.

PREPARATIONS OF IRON.

To the Editor of the Medical Gazette.

Sir,

On my return to town, after a short absence, I perceive that you have admitted into your pages, a very elaborate, but very weak attack upon me by Mr. Hemmingway: I trust to your sense of justice to admit my reply. At the commencement of my career as a pharmaceutical chemist in London, I introduced to the notice of the profession certain preparations of iron which had been employed for eight or ten years in France, without being noticed in this country; for the investigation which led to the use of several new salts of that important medicinal agent, we are indebted to M. Beral, a well-known and highly respectable pharmacien of Paris. I underwent considerable labour and expense in preparing the several salts of iron described by Beral, in order to suit them to this country in price, to ascertain through the medium of medical friends their remedial value, to make them known through the usual channels of medical information, and by advertisement. In the course of my investigations, I found that citric acid and iron entered into combination with various bases, forming a number of new compounds. A list of these was published. But as many of these had not been tried as remedies, little more was said about them, than that I kept them for any medical gentleman to employ who might wish to try their effects. There is responsibility incurred by persons who introduce new remedies to the profession, which chemists would do well to consider, since much injury may accrue from untried preparations. As soon as the profession perceived the great improvement which these salts were upon former preparations of iron, a considerable demand for several of them was created, and in the spring of 1842 I was making the "Citrate of Iron" in large quantity. At this juncture, as it appears from Mr. Hemmingway's letter, the "respectable" firm of Savory and Co. employed him to attempt the imitation of these preparations, and if his success has been no better than is indicated by his letter, his time has been sadly misspent.

To any chemist I need not say Mr. H.'s letter proves nothing but his own inability to pursue such an investigation, and I scarcely think any one can be misled so far as to mistake his verbose story for sense or information. For example, Mr. H. thinks he has discovered a salt, all he knows of which is, that it is of "an amber colour:" he leads us to infer that to analyse a salt is unnecessary, since when two or three substances are put together, we must know its chemical composition. He thinks that a sweet taste in a compound is a proof of the existence of sugar;—and thus he proceeds, assuming himself to be qualified to dictate a nomenclature for what he so well understands.

Mr. H. gives a summary of the citrates of iron, in which he does not even mention one of the most energetic, and that one the basis of the citrate of quinine and iron: this proves how deeply he has studied the subject of which he writes, and what the nature of his claim is, to the discovery of the "amber-coloured salt," upon which your present correspondent has failed to throw the slightest light. There is in the preparations of iron much to interest both the chemist and medical practitioner; the former, since the chemical relations of iron and its combinations have by no means been fully studied, and the latter, because abundant experience has proved that the effects of iron on the animal economy and in the treatment of diseases vary with the state of the iron in relation to oxygen, and the acid or metalloid with which it is combined, to an extent which at present is very inadequately understood. Abundant experience has, however, proved that the citrate of iron of Beral is a valuable remedy; which every body knows, contains a portion of ammonia. I have already published my reasons for not altering Beral's designation of this salt.

Then there is another citrate, the citrate of peroxide and protoxide of iron, which has a very energetic action as a remedy. Many gentlemen have assured me that in tic-douloureux, they have found nothing equally efficacious. The combination of this with

citrate of quinine is now in most extensive use, and most satisfactory information has reached me respecting its therapeutic value.

The uses of iron in the treatment of diseases would be an excellent subject of investigation for a practical physician. The chemical part I trust ere long to accomplish myself.—Your obedient servant,

LLOYD BULLOCK.

22, Conduit Street,
April 5, 1844.

DR. ANDREW MOIR.

IT is with much regret that we announce the death, on the 6th ult., of Dr. Andrew Moir, Lecturer on Anatomy in King's College Medical School, Aberdeen. Cut off at the early age of 38 years, by contagious fever, caught in the discharge of his professional duties, his death has deprived Aberdeen of a townsman of whom she had reason to be proud, and her medical school of one of its most efficient teachers. What adds to the melancholy nature of the event is, that Dr. Moir has left an aged mother, a widow, and three very young children (the last born two days after his decease), totally unprovided for, without relatives, and destitute even of temporary supplies. A subscription has been entered into among the late Dr. Moir's friends and the humane, to provide a fund for the immediate maintenance of his destitute family. Drs. A. Harvey and G. Dickie, Aberdeen, have kindly undertaken to receive contributions in their behalf.

DR. BARLOW.

OUR profession has just sustained another severe loss in Dr. E. Barlow, of Bath, who died last week. Dr. B. had not been seriously indisposed for any length of time; he appeared to fail all at once; both mind and body seeming to be stricken. He made little complaint, save of weakness; he passed a considerable quantity of pale urine, which, on examination, was found to be of low specific gravity, alkaline, and highly albuminous. Disease of the kidney was diagnosticated, and, from the symptoms, disease that was likely to prove fatal in no long time. A fortnight more, and his race was run. One of the kidneys was found highly congested, of a deep red colour, and with white granular deposits through the whole of its substance; the other was pale, but granular also. The other viscera were sound.

Dr. Barlow is best known to the profession by his contributions to the Cyclopædia of Practical Medicine, which are able, and prove him to have been a careful and accurate observer. No man ever enjoyed in a greater degree the love and esteem of his friends and associates.

APOTHECARIES' HALL.

Gentlemen who have received Certificates, April 4.—D. C. Noel, Jersey.—J. Horton, London.—J. L. Williams, Carmarthen.—N. S. Glazebrook, Liverpool.—B. L. Jemmet, Grenada, West Indies.—T. Gaskell, Knutsford, Cheshire.

NOTICE TO CORRESPONDENTS.

The letter of "M.D. and an Anatomist" is too severe and personal. The subject of Inflammation is surely, of all others, that on which every man may have his say without offence to any one. We should like to hear from M.D. upon another topic, and when his back was not up.

We are sorry we cannot give "A Reader," who writes from Glasgow, the information he desires. We have not been able among our friends here to ascertain whether Dr. Badham had or had not abandoned his purpose of publishing his lectures. We should be delighted to learn that he had not. Neither have we seen any portrait of that distinguished physician.

We trust that the vaticination of "Sherborniensis" will not prove true; and we hope not only to have him on our list of readers, but also among the number of our contributors.

Dr. M. R.'s paragraph is an advertisement, and, strictly considered, would subject us to pay duty to the Queen did we insert it.

MORTALITY IN THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, March 30.

Dropsy, Cancer, Diseases of Uncertain Seat	129
Diseases of the Brain, Nerves, and Senses	193
Diseases of Lungs and Organs of Respiration	294
Diseases of the Heart and Blood-vessels	27
Diseases of Stomach, Organs of Digestion, &c.	57
Diseases of the Kidneys, &c.	8
Childbed	7
Paramenia	0
Ovarian Dropsy	0
Disease of Uterus, &c.	1
Arthritis	0
Rheumatism	5
Diseases of Joints, &c.	4
Carbuncle	0
Phlegmon	0
Ulcer	1
Fistula	0
Diseases of Skin, &c.	0
Old Age or Natural Decay	60
Deaths by Violence, Privation, &c.	74
Small Pox	18
Measles	25
Scarlatina	35
Hooping Cough	44
Croup	12
Thrush	5
Diarrhœa	10
Dysentery	3
Cholera	0
Influenza	9
Ague	0
Remittent Fever	0
Typhus	39
Erysipelas	6
Syphilis	2
Hydrophobia	0
Causes not specified	12
Deaths from all Causes	1080

WILSON & OGILVY, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, APRIL 19, 1844.

ON THE FUNCTION OF THE LYMPHATIC VESSELS.*

By Robert Willis, M.D.

(For the London Medical Gazette.)

All the advances lately made in physiology, instead of rendering more obvious the end for which the vessels entitled *lymphatics* or *absorbents* exist, seem but to have made their presence a greater anomaly, their function a greater enigma. After having been left for half a century or more in exclusive possession of the office of *absorbing*, it is generally known that M. Magendie has in these times held himself authorized to conclude, from his experiments, that the lymphatics had nothing to do with absorption, this act, according to him, being performed solely by the veins. But while he thus deprived the lymphatics of their ancient duty, this distinguished physiologist has not ventured to assign to them any new office, and has consequently left them to be considered as a superfluity—a something that might have been dispensed with in the nicely ordered mechanism of the animal machine, where, however, there is very certainly nothing superfluous—no organ without its function, no function without its appropriate instrument.

Professor Rudolph Wagner, writing so lately as the year 1841, can see no reason for the existence of the lymphatic system. "Neither anatomical nor physiological considerations," he remarks†, "render any satisfactory account of the import and office of the lymphatics." The field, therefore, seems as open to inquiry, in regard to the end for which this system of vessels exists, as it is in regard to the office of the spleen, the thymus, the thyroid, &c.

In a paper which I had the honour of laying before the Royal Society very lately, "On the Special Function of the Skin," I shewed the influence which the dissipation of a certain amount of simple water by the sudoriparous glands exerted upon the current of blood returning from all the peripheral parts of the body to the heart, and insisted upon this as the means by which venous endosmose or absorption was chiefly secured.

In perusing what has lately been written of highest authority on the subject of absorption, it will be seen that the necessity for a difference between the fluid that is ministering to the nutrition, or feeding the secreting faculty of an organ, and the fluid that is returning from this organ, having done its office, has very constantly been felt; but it seems to me that the means by which this needful difference is effected, to say nothing of its nature, has not hitherto been explained. The faculty of imbibition, to which there is at this time a tendency among physiologists to refer all absorption, is always understood as engendered between fluids or matters in a state other than that of homogeneousness or equiponderance. Were the several elements, both fluid and solid, of the tissues which compose the animal body, all in the same state, chemically and physically, there would be no interchange of matters between them — the walls of the arteries would not exude, those of the veins would not imbibe. "If the same portion of blood were constantly exposed to the same part of the tissues," says Müller*, "imbibition, after a time, would necessarily cease. The motion of the blood must be so far favourable to imbibition, therefore, as it removes what has already been absorbed, and thus renders constant the cause of endosmosis." The necessity for a difference

* Read before the Royal Society, March 16, 1843.
† Physiology, English version, page 444.

* Physiology, English version, page 267.

implying endosmose between the outgoing and incoming current of blood, is distinctly expressed in this passage; but neither here, nor in any other part of Professor Müller's work, is the reason given for any difference that may perchance exist between the one and the other. To say that the arteries exude and the veins imbibe in the course of the circulation, is to state an admitted fact, but not to make known the means by which the former are disposed to exude and the latter to imbibe. Did not the blood, between its outward and inward course, lose something by which its density was augmented, there would be no endosmose into the returning channels, in the sense in which the word is generally understood in physiology, viz. penetration, with increase in the bulk of the body or liquid penetrated. I have, as I conceive, shewn that the sudoriparous glands form one element in a great system existing for the especial purpose of abstracting water from the blood, and thus preparing the conditions essential to the return into the venous circulation of the fluids transuded by the arteries for the purposes of nutrition and vital endowment. I say *one* element in a system having this important office entrusted to it; for the influence of the sudoriparous glands could not be expected to extend to any great depth below the surface; the subcutaneous veins transmitting a fluid more dense than that of the arteries which feed them by the whole amount of the perspiration which has been thrown off, will effectually drain the tissues through which they pass; but they would exert little or no influence upon deeper parts; these would still be liable either to be overwhelmed by the flood of plasma poured out upon them by the nutrient arteries; or otherwise, there being no attraction exerted between these parts and the contents of the capillary arteries, all exudation would cease. It appears to me that nature has come to the aid of these deeper tissues by means of the vessels entitled *lymphatics* or *absorbents*, the essential function of which I believe to be the abstraction of a certain quantity of the watery element of the blood, for the specific end of rendering the returning stream of greater density than the outgoing stream.

The very first question that now presents itself is this: what is the nature of the fluid which the lymphatic vessels transport? Is it watery and of less density, or is it thick and of greater density, than the blood or liquor sanguinis? If it were more dense than the liquor sanguinis, it would have no influence in augmenting the density of the blood returning to the heart in the veins; if less dense, on the contrary, in proportion to the excess of its water over that of the blood will be its influence in condensing this fluid in the veins, and in fitting them for draining the tissues through which they pass. Now the specimens of human lymph, as well as those of the lymph of healthy quadrupeds, which have been analysed, have all been found of density greatly inferior to blood. In the lymph examined by Marchand and Colberg, which was obtained from an open lymphatic vessel upon the top of the foot, the quantity of water amounted to 96·92 in 100 parts. In that analysed by Bergman, which was obtained from another subject under similar circumstances, the quantity of water was 96·10 in 100 parts. And in that examined by Dr. G. O. Rees, which was obtained from the abdominal lymphatics of a healthy donkey, the quantity of water was 96·53 in the 100 parts. These results, obtained by different chemists of acknowledged accuracy, at different times, agree very remarkably, and may be taken without limitation as correct; but the quantity of water which enters into the composition of the blood of man appears, from the multiplied analyses of M. Lecanu, to amount to no more than from 77·8 to 82·7 in the 100 parts. The lymph is therefore a much more attenuated fluid than the blood, and being so, the blood will be inspissated, and made apt to imbibe in the same ratio in which the watery lymph is abstracted from its mass.

The difficulty that presents itself to the mind at this stage of the inquiry, is to conceive the means by which the lymph is separated from the blood. It cannot be by a merely mechanical or physical process akin to or identical with imbibition. Magendie and his scholars refused all absorbing power to the lymphatics; and if the expression be used to signify physical imbibition to a striking extent as it is carried on by the veins, I believe that they did so with perfect propriety. The veins are, in fact, the only *absorbents* in the strict sense of that word; *i. e.* they are the only structures whose office in addition to that which they have as channels of the returning current of blood, is connected with or dependent on their capacity to imbibe. Even the lacteals, as I shall have occasion to show, form no exception to this rule. All the tissues of the body imbibe, it is true, but this they do very slowly in every instance, save in that of the veins, and except in reference to these vessels, and perhaps the intestinal villi, function seems in no case to be connected with the mere physical capacity to be quickly penetrated by fluids. Function is, in fact, very often directly opposed to endosmose; as witness the separation from the relatively dense blood, of the watery saliva, pancreatic juice, sweat, and urine. The admitted laws of endosmose declare that such fluids as these ought not to quit the blood. There can be no question, however, of every tissue and organ in the body being endowed

with an especial elective and divellent power, connected doubtless with its development and growth, by which it selects from the plasma, with which it is bathed, the peculiar principles required for its origin and nutrition: bone takes gelatine and phosphate of lime, muscle takes fibrine, the brain and nerves take albuminous and fatty matters, &c. And then the glandular organs have very peculiar, if not perchance additional *creative* powers, by which, whilst they are nourished, they separate from the blood or prepare and pour into appropriate channels various fluids which are spoken of as their *secretions*.

In the same way precisely would it seem that the lymphatic and lacteal vessels perform their functions. These vessels may, in fact, be viewed as the essential elements of an universally distributed gland. Their walls and sacculate commencements have been shown by the latest and best observers* to be composed of an aggregation of granular matter, of nuclei, and of cells in various stages of development, precisely similar, as I conceive, to the ultimate elements of every secreting organ known. Here, as elsewhere, nuclei in a ceaseless state of reproduction, attract a certain quantity of granular matter about them, and then they become surrounded with a delicate envelope filled with fluid—they have grown into cells; and these having attained maturity, and being then in contact with the internal surface of the lymphatic vessel in whose wall they have grown, they give way and shed their contents into its cavity. The secreted fluid in reference to the lympatic system is the lymph, a fluid having on an average, as has been seen, about 96½ per cent. of water, and 3½ per cent. of solid matter in its constitution, this solid matter being identical in chemical composition with that of the liquor sanguinis† The lymphatics, then, or, to speak more accurately, the cells of which their walls are composed, in the course of their evolution exert a special affinity for the watery element of the blood; and abstracting this from the fluid that is circulating in the capillary arteries, they in the same proportion inspissate the current which is returning to the heart in the veins, and thereby endow it with powers of imbibition or endosmose to effect a ceaseless and rapid change in the plasma which is transuding the walls of the arterial system at every point.

The assumption of the chyle by the lacteals, or lymphatic vessels of the intestines, is effected in the same way as that of the lymph in other parts of the body, but unquestionately with a greater amount of *penetration* here than elsewhere. Modern physiology repudiates the idea of imbibition by open mouths; the lymphatics of the intestines begin, as they do everywhere else, in the form of cœcal sacs or canals, and the only difference observable between their structure and that of the lymphatics generally, appears to consist in the higher development of the essential elements of the system—the nucleated cells—which is here conspicuous. The absorption of the chyle is readily to be explained in this way: the substance of the intestinal villi where they are met with, that of the spongy tissue which still forms the inner layer of the small intestines, where they fail, like the substance of other tissues, is in a state of perpetual growth and decay. The decay here, as in glandular organs generally, takes place in the interior, towards intercellular channels or ducts; in the case under consideration, towards lymphatic or lacteal vessels. But the cells of which the intestinal villi and pulpy inner membrane of the bowels principally consist, being evolved in mediate contact with the chyme, are penetrated by some portion of this; they gradually attain maturity, and then they give way and discharge their fluid contents mingled with a peculiar granular matter into the ducts with which they are in relation. The fluid contents are the *chyle*, the ducts are the *lacteals*.* The contents of the nucleated cells of the intestines,, it is to be observed, are only white and milky when there is chyme, and that even of a certain description, in the intestines; when there is none of this chyme present, their contents are transparent and colourless, or nearly so, as is

* Vide particularly the Allgemeine Anatomie of Henle, S. 550, and Tab. v. fig. 26.

† There is every reason to believe that blood-discs are developed in considerable numbers in the lymphatic vessels: the albuminous fluid which they contain is fitted, we must presume, to prove the matrix or blastema of these important cells, and they are evolved in it probably as a matter of course, their formation and evolution being assisted by the elaboration which it undergoes in the lymphatic glands. I cannot, however, regard this part of the office of the lymphatic system at large as otherwise than secondary, and in some sort adventitious, to that which is advocated for it in this paper.

* Doellinger appears to have been the first who approached the truth in this matter. He held that the villi of the intestines incessantly reproduced on their exterior or intestinal aspect by the aggregation of particles of chyme, in the same way as the germinal membrane of the embryo grows by the apposition of particles of the yolk, underwent in the same measure solution on their interior, and by this process formed the chyle of the lacteals. This is obviously the germ of an idea that has proved most fortunately prolific since Doellinger wrote (vide Froriep's Notizen, Bd. I., No. 2, 1828). Had he but viewed the aggregations of nucleated cells which compose the intestinal villi as derived from the common nutrient fluid, he would have anticipated Purkinje in his beautiful views of the intimate nature of glandular secretion (vide Versammlung der Naturforscher und Ærtzten, Prag, 1837, in Isis von Oken, No. 7, 1838, p. 573), views that have very recently been most satisfactorily extended and variously demonstrated by Mr. Goodsir (vide Transactions of the Royal Society of Edinburgh, vol. xv. p. 295, 1842.)

also the product of their maturity and rupture, then entitled lymph, no longer chyle. Chyle indeed, only differs from lymph, in containing a relatively larger proportion of albuminous and fatty matter, which is exactly what might have been expected in the fluid that is bringing fresh pabulum for the use and maintenance of the economy, albumen being the representative of the azotized fat of the non-azotized elements of the animal body.* I only pause here to observe, that notwithstanding the mass of fresh material with which the lacteals are charged, they still transport a fluid of much less density than the liquor sanguinis, and are, therefore, in a condition to execute the important office which I have assigned to the lymphatic system generally.

The anatomical distribution of the lymphatic vessels is in complete harmony with the views now taken of their vital function. In conformity with the principle of organs being found near to the places where their office is wanted, the office of the lympatics must be general, inasmuch as the system is general. Mr. Lane has, however, called particular attention to the fact that the lymphatics are by no means ramified like arteries, veins, and nerves, to every constituent particle of the body. They are never seen save as vessels of a certain magnitude, that may be followed from the glands of the arm-pit and groin downwards, with the naked eye, by means of the knife and forceps to the very extremities of the fingers and toes. They run under the skin and in the intermuscular spaces, in lines more or less parallel to one another, and for long distances without receiving any lateral branches, although they frequently inosculate. Instead of growing continually, and from twigs and branches becoming trunks, in their upward course, like veins, the principal lymphatic channels on the dorsum of the foot, and on the back and palm of the hand, are actually seen dividing into great numbers of somewhat smaller canals, which then proceed upwards, and only come together again as they approach a cluster of lymphatic glands. The object is evidently to *diffuse*, not to concentrate the influence of these vessels. These lymphatics of the extremities, in a word, have everywhere the same character, and bear the strongest possible resemblance in their disposition to the tile or covered drains of modern agriculture; and they have, in fact, something of the same duty as these to perform. It is only on the serous membranes surrounding the viscera that the lymphatics have rather more of the appearance of veins in their mode of distribution; still, even here, they are not in general seen ramifying extensively and dividing into branches and twigs successively more and more minute until they escape the eye, except on the under surface of the liver; they rather proceed in a fasciculated manner, like bundles of rods. Speaking of the lymphatics of the viscera, Müller says expressly: "I am acquainted with no absorbent vessel that is not visible to the naked eye" (Physiology, p. 282), a conclusion that is borne out by the late researches of Mr. Lane (Cyclopædia of Anatomy, vol. iii. p. 217). It is now very generally agreed that the lymphatics are only disposed in the spaces between, and upon the surface of, organs; a few canals may also accompany the larger blood-vessels of the viscera for a certain way on their destination; they very certainly do not penetrate the substance or parenchyma of any organ. The mercurial injections of Fohmann, Panizza, and others, made by pushing a pipe at random into the filamentous tissue and parenchyma of organs, are acknowledged by the best anatomists to be injections of the interorganic areolæ, not of lymphatic vessels. The vicinity, not the immediate presence, of lymphatic vessels, therefore, suffices for the œconomy; and this accords with the views of the office which I have advocated for them.

The same views seem to acquire additional and peculiar support from the singular development of the lymphatic system which we observe in tortoises, lizards, and serpents —animals in which the common integument is obviously unfitted for the elimination of water, or watery vapour, and in which some substitute for this was therefore necessary. In these creatures, the lymphatic system may be said, without exaggeration, to be enormously developed; it is here of such extent and capacity that it is actually furnished with contractile sacs or hearts in various situations more or less remote from the origin of its constituent canals, for the propulsion of its contents towards the central organ of the circulation. Whether there be a corresponding increase in the number and magnitude of the lymphatic vessels in those higher animals which are covered with a horny or impervious integument, such as the manis and armadillo, I do not know, and have no opportunity of ascertaining, but I should anticipate that this was the case.

It is also important to observe that in certain diseases where the function of the skin is diminished, as in dropsies, the lymphatic system acquires its highest state of development. To display the lymphatics, anatomists always select the body of one who has died of some disease complicated with general dropsy.

* Vide the analysis of lymph and of chyle procured by Mr. Lane from the same animal at the same time, by G. O. Rees, M.D. F.R.S., in London Medical Gazette; and Mr. Lane's excellent article, Lymphatic System, in Cyclopædia of Anatomy and Physiology.

The relationship of the lymphatic system at large with the capillary circulation, and its subserviency in the direction already indicated, are still farther proclaimed by the manner in which it is finally connected with the blood-vessels. The watery fluid appropriated by the lymphatics is not poured into the veins in the vicinity of the parts and organs where it is gathered; this would have had the effect of again attenuating the returning current, and undoing all that had been done*. The contents of the lymphatics are added to the blood only at the moment of its entering the heart—at the nearest eligible point, it may be said, to that organ, from whence it will immediately be sent to undergo exposure in the lungs, and, besides the special purgation which it there receives, to lose so much water as will give the tide in the pulmonary veins a somewhat higher density than that in the pulmonary arteries, and so fit it to effect the drainage of the delicate tissue of the instrument of respiration. This, in fact, I hold to be the end of the pulmonary exhalation, an excretion which, although it may be in some measure physically unavoidable, is still made subservient to an important vital act.

As a final confirmation of my views in regard to the import and office of the lymphatic system, I would yet further refer to the singular amount of disturbance which ensues in the system generally upon any implication of the functions or structure of the serous membranes, which may be regarded in the main, I conceive, as contrivances for the accommodation of large numbers of lymphatic vessels†: for example, upon inflammations of these, adhesions to any extent of their opposite surfaces, &c. The mischief, in such cases, is commonly ascribed to interference with the motions of the organs whose serous coverings are interested, to the extent of the surface affected, and so on; but it certainly depends on some cause of greater moment: I believe that the nutrition, that the life of the organ implicated, is compromised; the conditions necessary to the access of the nutrient fluid, and to the removal of effete matter, are interfered with, and hence arise the great amount of general constitutional disturbance first, and the constantly fatal effects in the end, which accompany affections of the serous membranes.

Thus far the function of the lymphatic system and skin has been considered as subservient to the needful interchange of the nutrient fluid, as this goes on through the spongy walls of arteries and veins. But it seems highly probable that the same function is efficient in an equal degree in facilitating the access and transit of the stream which supplies the nutrient fluid still included in the interior of arteries and veins.

Ever since the time of Cullen, physiologists may be said to have been in eager quest of a cause for the motion of the blood in the capillary vessels other than that which is derived from the mechanical force of the heart; and various bold hypotheses have been advanced on the subject.

The majority of the highest authorities in physiology at this time, however, recognise no moving power in connexion with the circulation of the blood among the more perfect animals, save that of the heart.

In acceding to this view, which I have no hesitation in saying that I do entirely, it is still open to us to inquire whether or not there be any means by which the course of the blood, along its more minute canals especially, is *facilitated*. It were vain to deny that the amount of resistance encountered by a somewhat sluggish fluid like the blood, propelled through canals of the 20 and 25,000th of an inch in diameter, must needs be very great; and yet the rapidity and obvious ease with which we see it shoot through such canals in the transparent parts of living animals, apparently drawn rather than driven through them, seems to indicate that everything like resistance is annulled.

It is certainly a very remarkable fact that the column of blood contained within a fine vessel of a living animal does not fill it from side to side as an evenly-mingled mass of coloured and colourless corpuscles and transparent plasma. The red discs are seen shooting rapidly through the centre as if repelled by the walls of the containing channel; the colourless corpuscles, on the contrary, suspended in a film of plasma of very appreciable thickness, interposed between the serried column of blood-discs in the centre and the walls of the vessel, move on, rolling over and over in contact with the bounding parietes, and as if attracted by them. This arrangement is unquestionably

* In some of the lower animals it would seem that all the lymphatics do not proceed to discharge their contents at the angle between the internal jugular and subclavian veins. This is held to be particularly the case in birds, in which several considerable lymphatic vessels have been described as joining the veins of the abdominal cavity. Lippi, who would have extended the same anatomical arrangement to man and the higher mammalia, totally failed to establish his views when in contact with the distinguished anatomists of Paris. The blood of the vena cava ascendens, however, having parted with the urine and the perspiration of the whole of the inferior extremities, might obviously be very considerably diluted without losing its capacity to imbibe from the tissues through which it passes.

† It is rather interesting to remark here, that the only two of the abdominal organs which are not included within duplicatures of the peritoneum, the pancreas and the kidney, are organs whose secretion is extremely watery. The blood in the capillary arteries of these two glands losing so much water as it does to their respective secretions, the blood in the capillary veins is rendered so dense that it suffices, with but little assistance from the lymphatics, to effect the drainage of their tissues.

one of high importance, of the nature of which I apprehend there can be little doubt, when the extent of apparatus is contemplated that is provided for the especial purpose of securing a different density between the outgoing and the incoming current of the circulating fluid, and a consequent ceaseless interchange of elements between these, in conformity with the laws of heterogeneous attraction, or endosmose.

The walls of the arteries, from the sigmoid valves of either great cardiac trunk to the limits of their peripheral ramifications, are incessantly transuding a fluid of considerably less density than the liquor sanguinis, which is either thrown off by the sudoriparous glands, and lost, or is appropriated by the vital act of the lymphatics, and returned at the proper moment for the uses of the œconomy; the walls of the veins, on the contrary, filled with a fluid augmented in density by the whole amount of water lost from the surface of the body, and transferred to the lymphatics, are incessantly abstracting, or rather are incessantly penetrated by fluids from the tissues through which they pass. In this way are different capacities of endosmose and exosmose continually engendered, first, as between the blood-vessels and the liquor sanguinis, and secondly, as between the liquor sanguinis and its containing channels, both efferent and afferent, from their beginnings to their ends.

RECORD OF CASES.

By Thomas Mayo, M.D. F.R.S.
Physician to the Infirmary of St. Marylebone.

(For the Medical Gazette.)

[Continued from p. 17.]

The method which I have adopted, ought, if I am doing it justice, at least to have the advantage of affording food to a love of novelty. For, whereas the language of system should be unvarying, so far as the system is rightly laid down, those details, on the other hand, by which the system is broken up into its ultimate varieties, present faces varying endlessly, according to the direction in which we make the fracture.

But if any doubt exist whether this latter process be one greatly desired by the present state of our knowledge, we need turn over but a few pages of any systematic writer of the present day in order to solve it. In the 76th page of Dr. Abercrombie on "Diseases of the Stomach and other Abdominal Viscera," we find the disorder gastrodynia admirably described under three heads.

1st, Pain occurring when the stomach is empty, and rather relieved by taking food.

2dly, Pain occurring immediately after taking food, and continuing either during the whole process of digestion, or till the stomach is relieved by vomiting.

3dly, Pain beginning from two to four hours after a meal, and continuing for some hours. Both the two last heads Dr. Abercrombie connects in some degree with inflammatory action. But when we proceed to those distinctions of treatment which may render this nosological division practical, we are met by an admission "that it is difficult to say what remedies are best adapted to each of these forms of gastrodynia; that he has found nothing of more general utility than the sulphate of iron, in doses of two grains, combined with one grain of aloes, and five grains of aromatic powder, taken three times a day; that oxyd of bismuth, combined with rhubarb in the same manner, is also very useful; likewise lime-water and small opiates; and that when the affection" (what affection?) "proves obstinate, it must be treated with topical bleeding and blistering, with farinaceous diet."

This is that triumph of pathology over therapeutics which our brethren on the other side of the water have so successfully achieved, and which, moreover, they have taught us to emulate. Meanwhile it is to be observed, that our wayward taskmaster, the public, is by no means satisfied with this vagueness of practice, however candidly avowed; and that they anxiously appeal from us to the various classes of irregular practitioners, whose pathological ignorance guarantees *them* against attaching undue weight to that element of the subject. Whether the system be infinitesimal or gigantic in the quantity of its doses or affusions, it is sure to be a therapeutical system, confidently laid down, and generally drawn out with much attention to minutiæ and detail.*

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* It is to be regretted that the able author of an article in the Quarterly Review, entitled "Brandy and Salt, Hydropathy and Homœopathy," has not more largely entered into the important question, how systems of quackery gain influence with the public. Something they owe to the cause mentioned in the text; some-

The circumstances under which chalybeate remedies may be made available in the treatment of gastrodynia constitute an important topic. It is my present object to state some cases illustrative of a different principle of practice.

July 31st, 1831.—Mr. A——, a gentleman who had practised the medical profession in India, aged about 56, tall, thin, of the bilious temperament, having seen much service, and lived rather freely in early life, had been cured of a chronic affection similar, he said, to that which I shall presently describe, about four years ago, by a course of pil. hydrarg. continued for eleven weeks, and followed up by a visit to Carlsbad, and the use of its waters. About eight months ago, he was again attacked with pain at the epigastrium, constant in some degree, but greatly increased by eating, and attended by progressive marasmus. For this he had at first recourse again to pil. hydrarg.; but on this occasion it increased his uneasiness, irritating his bowels. After trying ineffectually many remedies, among the rest, abstraction of blood, tonics, and alkalies, he then had recourse to mercurial inunction, which he had continued to the day on which I first saw him, viz. eight weeks, with manifest relief of pain, and improvement in his general feelings, but without any arrestation of the decline in strength and weight: the latter was ascertained weekly. His pulse was quiet, and of average strength and frequency; his respiration good; his evacuations healthy; his urine moderately acid, rather high coloured, not deficient in quantity.

Presuming that Mr. A—— required the internal use of a mercurial for its perfect effect, I exchanged the mercurial inunction for the pil. hydrarg. submur. co. gr. v. to be taken twice daily. This course was continued to the 20th of August, with the most marked good effect; at first, he also increased in weight, but in this point he became stationary. This plan was exchanged in consultation with my friend Dr. Gordon, then of Finsbury Square, for the Decoct. Sarzæ Co. with Hydrarg. Oxymuriat. and Tinctura Cinchonæ. This greatly disagreed. On the 28th the Plummer's pill was resumed bis quotidie, with as much mercurial innction daily as could be effected in an hour. No irritation of bowels resulted from Plummer's pill, as formerly from the Pil. Hydrarg.; and the plan was prosecuted continuously, though with varying quantities, to the 10th of November.

His diet meanwhile was simple, and very moderate; vegetables were not allowed; a small quantity of sherry was taken daily. It was observed by himself that the taking food was effected with least pain when his body was placed at an angle of forty-five degeees; and it was remarked that in that attitude a considerable hardness and fulness of the liver became observable two inches below the right ribs, which was totally unobservable in any other attitude.

Early in December, he went to Brighton, and thence he wrote me word that he had become confined in his bowels, which, he said, had in his former illness been one of the first facts observable on his improvement. He did not continue the Plummer's pill at Brighton; but tried Extracts

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thing to mere love of novelty, and of wandering out of the prescribed road; something, also, to their intermixture of truth: and this latter point deserves more attentive consideration. The groundwork of a system of quackery will often be found in some error in the regular practitioners, detected and repaired; sometimes in some discovery which we have ourselves made, and which we ought to have carried out. The system of homœopathy is mainly the offspring of our injudicious use of remedies on the side of excess. The Morrison pill is a mischievous application of Dr. Hamilton's views on the use of purgatives. Hydropathy is an exaggeration and extension of the beautiful principles unfolded by Dr. Curry, of Liverpool, which we have ourselves allowed to drop into neglect. "The cause of this fluctuation in medical opinion," Dr. Christison says, in his admirable article, Continued Fever, "is not very clear; but there can be no question, that the change was not made without sufficient reason." I must venture on this point to differ with Dr. Christison. The existence of a "sufficient reason" is not clear. Let us have the opinion of Dr. Pitcairne on the subject. In the Life of the late Sir Samuel Romilly occurs the following passage. "My little girl was last week seized with a very dangerous fever. Having read in Dr. Curry's book of the happy effects produced in many cases by the application of cold water in fever, I asked Dr. Pitcairne, who attended her, whether it might not be advisable to try it. He said he thought it certainly would; that it might be of great service, and could do no harm, but the prejudice in London against it was so strong, that he never ventured to recommend it." This strength of prejudice at the head quarters of English medicine possibly prevented the establishment of a hydropathic system in a modified and scientific form and extent among us. In estimating the claims of quackery, we should remember, that, however strong the love of marvellouness, the selfishness of man is a still stronger principle; and that he will not long indulge the former principle in matters of personal expediency, unless the latter has also some food.

Taraxaci, gr. xv. bis quotidie, which did him no good, but some harm; as it lessened his appetite.

He kept, however, the ground which he had gained, under the judicious management of Mr. Blizard, who relieved effectually the paroxysms of epigastric pain and irritation, to which he was still subject, by an occasional dose of Sodæ Sulphas in Pulna water. Finally the Carlsbad waters taken at Brighton in the next summer completed his cure. I have no exact account of the entire loss and gain of weight which Mr. A—— experienced, but it was very considerable; and what is remarkable, both were progressive, with halts indeed, but no retrogression, from the moment that each commenced. His emaciation and weakness in August 1831, were extreme, without pyrexia or any other symptom except pain.

It should be observed that he was, and is, a man of strong sense, and of a cool, firm, and patient character.

Mrs. S——, æt. 63, a lady of a spare habit and nervous temperament, who had lived very temperately, but had undergone much mental exhaustion, consulted me October 23, 1837, for pain which she had long felt at the epigastrium, particularly after eating. She looked very ill; her eyes were sunk, her person emaciated; pulse quick and nervous; tongue clean; no pain on pressure of the abdomen, which was neither tense nor distended; no confinement of bowels. She told me that she had sometimes found temporary relief from pills containing a small dose (gr. $\frac{2}{3}$) of calomel, with Ext. Colocynth Co. and Pil. Rhei. Co. The suffering occasioned by food taken into the stomach was evidently interfering with her nutrition. Her mind and external circumstances were at that time comfortable and easy.

She had left off vegetables. I recommended a softened and pulpy diet of farinaceous food, allowing her white meat and fish. I prescribed—

℞ Pil. Hydrarg. Chlorid Co. Pulv. Ipecac. Co. aa. ℈iss. in pil. xij. divis. i. o. n.

℞ Pil. Rhei. Co. gr. ij.; Bismuth Trisnitrat. gr. ij.; Opii. gr. $\frac{1}{6}$. quotidie ante praud.

℞ Pil. Rhei. Co. ℈j.; Ext. Col. Co. Ext. Hyoscyam. aa. gr. xvi. in pil. xij. divis. i. vel ij. p. r. n.

I learnt in some weeks afterwards, that this plan had been eminently successful.

1841.—May 14th I was again consulted, the above symptoms having returned and resisted the repetition of the former plan of treatment. There was also pyrosis, but with little vomiting or nausea; bowels rather confined, some deficiency of bile, pains excessive after every kind of food at all times.

℞ Opii Extract. gr. ij.; Aloes, Gentianæ Extract. aa. ℈j.; Sapon. duræ, gr. x. Hyd. Chlorid. gr. iij.; in pil. xx. divis. 1 ter quotidie, that is, *after* each meal.

℞ Hyd. Chlorid. gr. v.; Liniment. Camph. co. Liniment Sapon. co. aa. ʒij.; pars dimidia Epigast. quotidie infricand.

℞ Infus. Caryophyll. ʒiv.; Aquæ Pimentæ ʒiss.; Ammon. Sesquicarb. ℈ij.; Liquor. Potassæ ʒi.; Træ. Humuli, ʒiij.; Syrup. ʒj.; M. ft. Mist. cujus sumantur coch. mag. ij. subinde.

This plan I learnt was entirely unsuccessful: I replaced it by the following:—

℞ Pil. Hydrag. Chlorid. co. ℈iss.; Morphiæ Acetat. gr. iij. in Pil. xij. divis. 1 bis quotidie. Emplast. Belladonnæ regioni duodeni applicand.

My next and subsequent communications reported complete success in this plan of treatment, and in perseverance in the diet at first prescribed; which had not been discontinued. I have frequently since heard of the patient as having gained flesh, being enabled to eat more solid food, and enjoying a very competent degree of health.

M. R., the brother of the last patient, and of about the same age, has for many years suffered from gastrodynia coming on after taking food, at a distance of from two to six hours, often with excessive eructation and distension from wind; emaciation, apparently from the same cause as that of the last patient, namely, insufficient food; absence of pyrexia; no pain on pressure; a quick and regular pulse; a clean tongue; fæces good; bowels moved easily, and when they are moved strongly, aggravation of gastrodynia: he remembers that he has in some degree suffered in this way from his earliest youth. He has lived an active life of business, has been a moderate eater, but has taken alcoholic stimulants freely at different periods of his life. Stimulants of this kind, par-

ticularly hot whiskey and water, postpone the attack, but generally increase its severity. Alkalis mitigate it but slightly. At one period of this affection, and when it was in a state of great severity, œdema of the legs supervened in a high degree, and some ascites; and were entirely removed by extensive acupuncturation of the legs and thighs. The discharge was very great; and the relief of gastrodynia, as well as of a sense of general oppression, was also great. This occurred four years ago, and since that time he has used the fixed alkalis largely with palliative effect. But the gastrodynia gained on him again, when I in 1842 ordered the use of muriate of morphia in quarter and half-grain doses nightly; and this has materially relieved the most oppressive part of the case, namely, sleeplessness occasioned by irritation and pain; added to the use of alkalis it has appeared to render a progressing disorder stationary. The total absence of pyrexia and also of symptoms of hepatic congestion in the last case, had rendered it apparently not inappropriate to a trial of preparations of iron. Accordingly, they were tried duriug his convalescence from the dropsy; but their effects were mischievous as far as they could be appreciated; apparently tending to reproduce the gastrodynia. The dropsy has never reappeared.

Of the three cases thus narrated, each certainly was tending to a fatal termination, when arrested by remedies, and in each there could be no doubt as to what remedy proved efficient, so far as effect was produced. In the first, mercurials profited; in the second, mercurials combined with a sedative; in the third, a sedative alone, or partially aided by habitual alkaline doses.

Of the remaining members of the family to which the two latter patients belong, one died, between his fiftieth and sixtieth year, from disease, apparently well marked, of the cardiac organs of the stomach, precluding at last all introduction of food. The other brother enjoys an entire immunity from affections of the digestive organs; but he is in an extreme degree crippled by gout.

[To be continued.]

ON THE

PROGRESSIVE DEVELOPMENT OF THE OSSEOUS BODIES OF THE VERTEBRÆ AND STERNUM,

AND THE ORDER OF THE FORMATION AND CONSOLIDATION OF EPIPHYSES, AS ILLUSTRATIONS OF THE EFFECTS OF TENSION.*

By T. Wilkinson King, F.R.C.S.E.

(For the Medical Gazette.)

In physiology a knowledge of the mechanical agencies may fairly be esteemed the foundation of those inquiries which concern the less tangible objects of sense. The circulation being understood, humoralism becomes appreciable, and chemistry available; and after the study of the capillaries, the vital processes of nutrition become comparatively easy of comprehension. That pressure and tension affect the evolution of all parts, scarcely requires proof at this time, but it may be very acceptable to some to find fair illustration of the manner in which these forces seem to determine minute changes in our bodies; and the more so, since it becomes quite certain that remedial measures cannot be quite justly applied without reference to such principles of natural action.

After looking through some chapters of Burdach's Physiology, translated by Jourdan, I felt still more impressed with the general want of reflections of the kind I refer to. The formation of a cord of adhesion, or band of new ligament, or mass of osseous callus, the strengthening of an overstrained part, and the removal of disused parts, are properly among the concerns of daily practice. And it is but too plain in the writings of practitioners that views are still esteemed which encourage the attempt to cure hypertrophy (as of the heart), without regard to the fact that it may be an indispensable compensation; and which inculcate the foolish practices of relaxing ligaments to strengthen them, and of stretching muscles and tendons to weaken or elongate them. (See some elementary considerations on Irritation, by T. W. K. Med. Gaz. 1843.)

All bones have this in common:—A cartilage-like nidus in the beginning, having performed its specific office, as

* Vide a Notice on "Isolated Ossifications," T. W. K. in the Provincial Medical Journal, August 1843.

a mere solid, becomes the seat of earthy deposit. The precise site of this deposit seems to be determined by a certain excessive degree of pressure or tension, as in the centre of a cubical bone or of an epiphysis, or in the middle of a parietal or cylindrical bone. The continual depositions which succeed seem also strictly determined by the directions of pressure, or extension, or of both: but the formation of cancellus is most curious and instructive: it commences as the excavation of the growing nucleus, and proceeds *pari passu* with the formation of external layers of bone. Internal absorption thus attending external deposition, would seem positively to depend on the *removal* of pressure from the centre to the circumference.

These considerations are necessary to explain the natural and morbid changes of the internal structure of bones. Every bone has most to resist on its surface, and least internally. In proportion as the exterior is strained and excited, so is it nourished, so does it grow; while, as the inner parts are the more removed from physical tensions, they are carried off by absorption.

This applies to every fibre of cancellus; for it is only tension which maintains its nutrition and existence, and which originally caused it to survive the activity of absorption, a column having been spared at every individual spot where the need of *resistance* had been, in a manner, pre-indicated. Now, by attention to this principle of vital action, we may learn the peculiar distinctions of periosteum and endosteum. The first is for the habitual sustenance of the growing and most active part of every bone, while the so-called medullary membrane, so far as it is an internal periosteum, is only a source of nourishment to parts comparatively unexcited and vitally inactive. The internal and external diseases of bones are in strict accordance with the same rules; but it is essential to reflect upon another law, which is chiefly important with reference to particular morbid actions.

As the normal bone is forming, it consists of animal and earthy parts in nearly definite proportions; but in certain diseases either the cartilaginous or calcareous parts may be deficient. This involves the consideration of diathesis, or idiosyncrasy, or peculiarity of constitution.

We find cases in which the whole osseous frame is in excess without anormal proportions in its constituents; but we may also have the earthy matter alone defective, or in excess; and when the earths superabound in the blood (?) we see not only a morbid tendency to their deposition, but actually a proneness to inflammation of the vascular investments of the bones. It is when growth is ceasing, and in the most bony figures, and in the most active bones, that ossific formations are most likely to be excessive. In other cases we find the lime diminished in the system. The skeleton becomes flexible, united fractures become disunited, recent fractures are not duly repaired, and the fragments, or the whole bone, may be removed by absorption. Thus, then, we are to expect peculiar actions in the periosteum and endosteum, and also specific changes in those constitutions which are (so to speak) preternaturally ossific, or the reverse.

Of course, also, the age of the individual materially affects the local and general states; and peculiarities of these kinds have, no doubt, attended the results of the various experimenters, some of whom have found more reproduction of bone in young animals—even where the bone has been deprived of blood, excepting through very partial channels—than they could account for.

The distinctions between periosteum and endosteum are rather those of degree than of kind. The active use of the substance of the condyles is attended with equal nutrition, whilst the periosteum here has directly to nourish only thin and feeble layers of bone. In such parts, moreover, nutrition is more dependent on extensions; in the shaft of the femur the reverse is the case. I have elsewhere endeavoured to show,* that granulation, or any vascular surface adhering to vascular bone, is what constitutes periosteum; and that such is the efficient and only specific source of osseous formation.

The first vertebral ossicle seen with the naked eye is in the body of the 10th or 11th dorsal vertebra; after this, the next adjoining, above and below; and so all the rest successively appear;—and while the first keeps the lead in point of size, the most remote are long the least in size. Each ossicle seems

* See accounts of the union of bone, in the Cyclopædia of Surgery, article *Fracture*.

to be a symmetrical flat oval, with rounded edges, a minutely spongy surface, and coarsely reticular interior. After about the third month, the first formed bone, increasing in dimensions, begins to assume a new form; its anterior edge is divided by a slight transverse fissure—that is, it becomes double by the development of a lip above and below. The like takes place posteriorly also, and the sulci become deeper and deeper as the bone grows, until about the period of birth.

The sulci are developed in adjacent bones in the same order of succession as the bones appear in, but are scarcely to be seen in the cervical or sacral ossicles. The first formed is always the largest, and the last to be filled up. The last formed are the first to disappear.* Towards the end of the third month after birth, the anterior face of the body of every vertebra is a tolerably flat surface, and the posterior fissures or sulci are little more than wide apertures for vessels.

Mr. John Birkitt, demonstrator of anatomy at Guy's Hospital, handed me the following abstract from Weber's Handbuch der Anatomie, Osteologia, p. 227:—

"According to my observations—1. The bodies of all the vertebræ, which even for a long time after birth are separated from the arches, are formed from at first four pairs, or eight osseous centres: of these, four lie near each other above, four near one another below.

"In a fœtus of from four to seven months we may often therefore perceive distinctly a horizontal division of the bodies of the vertebræ into a superior and inferior half; also, the perpendicular division of the vertebræ in the middle line of the body." . . . . . .

"The time of the origin and the consolidation of these different bony points and pieces of the bodies of the vertebræ is variable." . . . . . "The first and second cervical vertebræ, and the sacral vertebræ, by virtue of their peculiar formation, form an exception to the general rule."

Now I have found that the tissues become so transparent by simple maceration, that, as far as the naked eye can go, it is impossible for me not to reject these statements. See a series of minute fœtal spines in Guy's Hospital Museum.

It may be thought that such changes as those I have related are but of trifling import to the medical physiologist; and I am ready at once to admit as much, provided his attainments have already placed him above the need of rudimentary reflections on the influence of tension in the healthy and morbid processes of the human body; for such considerations are indispensable to the right management of deformities, and even of every reparative process.

It strikes me as a clear and complete explanation of the vertebral ridges, and of their origin and decline, as above described, to represent them as condyles formed where ligament is inserted, and where the flexions and extensions of uterine life determine repeated and excessive strainings. When the spine comes to be an organ of support, when it has great vertical forces to resist, then columnar fibres fill up the transverse sulci. Subsequent morbid ankylosis is but a modified repetition of the fœtal ridges.

In the article "Fracture," in the Cyclopædia of Surgery (p. 273), I have made the following remark.

"It is the presence of bone in the circulating system which leads to its massive formation. In proof of this, consider the stag's horn. The cause which fixes the precise spots of incipient (fœtal) ossification is, I conceive, specific. The event takes place in a solid nidus, at a point where many convergent forces or pressures are concentrated. The continuance of ossification (being, as it were, a columnar growth against gravity) follows a similar rule, for it is a deposition where pressure is greatest; and whether we regard the order in which the nuclei of all the bones begin, or the order of rapidity with which each one grows, the activity is evidently in dependence on the tension of the parts. The form of every bone, and process of bone, and even the arrangement of every fibre of cancellus, seems to me to be regulated by the above principle."

"To illustrate this opinion extensively, would be here out of place, though it is a valuable consideration, if it be applicable to all other tissues, as I do not doubt it to be. The tensions

* There seems to be some exception to this last statement; perhaps the middle dorsal sulci may be the last to disappear.

or excitements of a part are equal to its uses and its wants: the supply, in kind, in manner, and in site, to its minutest point, is determined by the tensions; which *tensions* declining, atrophy begins.

"That much depends on tension seems corroborated by the final remark, that when tension is removed from the centre it becomes absorbed, which explains the excavation of bone*, the course of simple atrophy, and the modelling of definitive callus; while it cannot be too strongly enforced, that the mere disproportionate weakness of a part leads to augmented nutrition in that part (if nutritive material fail not), whether it be membrane, muscle, or bone."

M. Meckel (Manuel d'Anatomie: du Femur) remarks, "Sa courbure ne commence à devenir apparente que vers la fin de la première année, et elle augmente ensuite peu à peu. En général, elle est plus considérable chez l'homme que chez la femme."

Here, superincumbent weight, muscular and ligamentous compressions, and extensions direct and indirect, partial or more general, are determining growth in various degrees and directions externally, while loss of tension within guides the course of excavation.

The growth of ossicles in the cartilaginous sternum seems to be guided by the same law as that which affects the vertebræ. The cordiform bone has normally one bony point placed centrically between six or seven points of pressure. If two points ossify, their position still seems guided by a like rule; they are placed one above the other in the median line.

In the second bone of the sternum we usually find an ossicle in two mesian points, each between the articulations of four rib-cartilages.

All the bones are first spherical, and next round flattened cakes. After this the squaring (growth towards four chief points of pressure), throwing up of prominences, and rounding off of surfaces, is, as before stated, evidently enough in accordance with the rule manifest in all parts—that every point becomes strengthened or atrophied in proportion as it becomes strained or disused; *i. e.*, of course, so long as the nutrient acts of the body are duly performed. (See a numerous progressive series of fœtal sternums in Guy's Hospital Museum.)

The order in which the principal epiphyses of bones ossify and become consolidated to their main shafts, I find, also, to be pretty strictly in accordance with the physical tensions to which they are, in point of time, successively subjected; and I think it will appear (almost without other comment than the following table) that the full development of various parts, more or less connected with them, depends on the very same influence.

Before birth, betwixt the sixth and the tenth week, the cylinders appear in the following order:—

Clavis, humerus, ulna, radius, femur, tibia, fibula, head of tibia.

At birth a point appears between the condyles of the femur, in the external condyle of humerus, in the lower end of tibia, and in the two ends of fibula.

The subsequent ossicles appear thus:—

About the	3d	month	after	birth,	the Head of humerus and femur.
"	"	"	"	"	Patella.
"	12th	"	"	"	Great tuber humeri, and then inner condyle.
"	2d	year	"	"	Lower end of radius.
"	4th	"	"	"	Greater trochanter, and then lesser.
"	6th	"	"	"	Lower end of ulna, and then upper.
"	7th	"	"	"	Upper end of radius.

The bony unions of epiphyses occur thus:—

Long before puberty	Head of radius, Inner condyle of humerus. External ditto. (?)
About puberty	The Lower end of Tibia, and then the Upper.
	The Upper " Ulna, " " Lower.
A little after puberty	The Lower end of Fibula, and then the Upper.

* If the initiative steps of excavation are guided as above, the commencement of medullary membrane and its particular artery is similarly regulated. The direction in which the ossicle now proceeds to develope itself settles for ever that of the nutritive foramen. Subsequent mechanical causes determine the unequal growth of parts of bones, and with them the various relative sites of nutritive foramina.

Some time after puberty..The Head and Tuber of humerus unite, and then join the shaft.
Now, too, the femur is joined successively by trochanter minor, caput, trochanter major, and lower end.
Long after puberty .....The Lower end of radius joins its shaft.

The above facts are chiefly from Meckel, who follows and corrects Albinus. I have omitted some statements, and might perhaps have omitted others, without detriment to the object I have in view.

It is apparent that the bony development of the arm, advancing rapidly before birth, is surpassed by that of the leg after birth, when the last becomes most subjected to strain, &c. The ulna first grows upwards, and then elongates downwards; with the humerus it is just the reverse.

The seeming irregularity of the periods at which different epiphyses are consolidated is, I think, reduced to a systematic principle by taking into consideration the breadth of surface to be consolidated, or rather that over which the effect of pressure is diffused, and by which, as it were, a certain measure of pressure is diluted or subdivided.

Thus, I make pressure the general determining cause, and breadth of surface a modifying cause. It is needless to shew the application of this theory; and the final acceptation of it may well be left to depend on correlative reflections.

36, Bedford Square, April 1844.

REMOVAL OF STONE WITHOUT INCISION OF THE PROSTATE.

CASE OF LITHECTASY,

IN A LETTER FROM J. G. WRIGHT, M.D. MALTON, TO R. WILLIS, M.D. LONDON.

(For the Medical Gazette.)

THE following case, in which a stone, weighing as nearly as possible two ounces troy, was successfully removed from the bladder by the gradual dilatation of its neck and of the prostate gland, without incision of these parts, is so interesting and important, that I have much pleasure in having obtained Dr. Wright's consent to make it known to the profession. I had been informed a few weeks ago, by a gentleman residing near York, who consulted me professionally, that Dr. Wright, of Malton, had lately done a new operation for stone, by a process of gradual dilatation, and that the subject of it had made a rapid and complete recovery. On this I addressed myself to Dr. Wright, and in the course of a few days afterwards received the following excellent letter:—

Malton, May 30, 1843.

My dear sir,—It affords me great pleasure to confirm the account of the case of Lithectasy with which you were accidentally made acquainted, and to furnish you with some additional particulars respecting it. It is one of the results of the publication of your excellent little work, "On the Treatment of Stone by Medical and Mechanical Means," and I believe it will exert some influence in establishing the operation you advocate so warmly.

The subject of the operation was a Mr. John Walton, aged 60, a farmer and bricklayer, living at Askham Richard, near York. He first consulted me in September last: he had laboured under symptoms of stone for at least three years. On sounding him, a stone, apparently of considerable size, was detected. The patient strongly urged me to attempt to remove it by the lithotrite, which he had heard of my having successfully used on a former occasion. To this I firmly objected, on these grounds:—1st, The urethra was unusually small; 2d, The bladder was extremely irritable, and appeared very much contracted; 3d, The stone was evidently a large one, and, from the sound elicited when it was struck, we imagined it was very hard,—a conjecture which proved to be quite correct.

On reading an account of the operation proposed in your work on Stone a few months previously, I was fully convinced of its superiority over the established modes of removing calculi; and I determined to test it on the first case that presented itself. In this instance, however, I had no alternative; for the reasons stated I would not at-

tempt lithotrity, and the patient expressed a determination to die with the stone in the bladder rather than submit to the lateral operation.

The operation was commenced on the 27th of September, 1832. I was assisted throughout the whole of the treatment by the zealous and efficient co-operation of one of the surgeons resident here, Dr. Esley. The rectum having been cleared out by an injection, and a staff introduced into the bladder, the patient was placed on the bed, in the position for lithotomy. An incision having been made between the scrotum and the verge of the anus, the groove of the staff was felt for, and an opening a few lines in extent was made into the membranous portion of the urethra, care being taken to avoid the bulb. The first difficulty we encountered was in the attempt to introduce the dilator. The urethra would not admit a staff larger than a No. 10 catheter, and the groove in this instrument only partially received the extremity of the dilator; so that when an attempt was made to glide the latter into the bladder, we found that the urethra would not receive at once the staff and the dilator. The staff was therefore withdrawn, and the dilator introduced alone. It passed readily enough into the urethra up to the point where the silk bag and bladder are attached to the tube, at which part of the instrument there is naturally a considerable projection. As there was no possibility of passing it farther without unjustifiable violence, we set about effecting the dilatation of the membranous portion of the urethra by a succession of bougies, which was not accomplished without some loss of time, and some suffering to the patient. We then contented ourselves with the simple introduction of the dilator, which was now effected without difficulty, resolving to wait before proceeding to any further dilatation till the irritation occasioned by the bougies had subsided. It was some days, during which the urine passed through the tube of the dilator, before it was thought prudent to proceed with the operation.

Sept. 30th.—A little fluid was thrown into the instrument, for the purpose of commencing the dilatation; but it most provokingly escaped as fast as it was injected. We were not long in detecting the cause: the bladder had become putrid from the warmth and moisture to which it had been so long exposed. Of course we were compelled to remove the instrument, and fit it up with a fresh bladder: after which it was reinserted, but not without much difficulty; and the patient complained so much of the irritable condition of the parts, that we were again compelled most reluctantly to discontinue the dilatation.

Oct. 1st.—The patient has passed a very uneasy night; this morning the tongue is dry, and brown at the centre, there is much thirst, and complete loss of appetite; the abdomen is greatly distended, owing probably to his not having had an evacuation for some days; the pulse is not accelerated. He was ordered to have an injection.

The enema answered but indifferently. In the evening he was sick and vomited. The tongue continued dry and brown; the abdomen was tympanitic, and as much distended as before the injection was used; there was some flatulence of stomach, and occasional hiccup. The pulse was extremely feeble, and the countenance anxious, with great loss of strength and depression of spirits. These symptoms occasioned us much uneasiness. You will remark, however, that hitherto, in consequence of the constitutional disturbance, and the derangement of the instrument, we had not made any decided efforts to dilate, and we agreed not to do so till there was some marked improvement in the general state of the patient.

6th.—No progress was made last week. During the early part of the week we waited for some abatement of the constitutional disturbance, and during the latter part for a dilator, for which we had written to London.

8th.—The general health of the patient is now pretty good, and the bladder and urethra have completely lost their irritability. We have now the advantage of possessing two instruments, both in excellent order.

9th.—Yesterday and to-day, for the first time, the dilatation has gone on quite satisfactorily. We have only proceeded very slowly, however, and with extreme caution.

10th.—The dilatation now progresses very rapidly, and every thing promises

a favourable result. The patient has no pain, except in the glans penis, and that is not severe.

11th.—The patient had a copious evacuation from the bowels during the night. The urethra having been now dilated to as great an extent as the instrument would allow, an effort was made to extract the stone. It was seized with the lithotomy forceps, but it was discovered to be too large to be removed entire, without using more violence than was thought prudent or safe. We had taken the precaution to have in readiness the lithotrite of Professor Ferguson, with which the outer layers of the stone were broken off, and removed piecemeal.

The breaking up of the stone was the most difficult part of the operation. The lithotrite can only be used with facility when the bladder is moderately distended, so as to allow of its being freely opened and turned. In the present instance, of course no water could be retained in the bladder, which was firmly contracted upon the stone. By gentle and persevering efforts, however, the outer layers were at length removed, and the stone having been thus greatly reduced in size, the remaining portion was grasped by the lithotomy forceps, and brought away. The central stone, with as many of the fragments as could be collected, weighed a little short of two ounces troy. The patient was perfectly easy the moment the operation was completed; he soon afterwards fell into a sound sleep. In the evening there was some little excitement, but not the slightest pain or uneasiness. I should have stated, that a tube was inserted, as after the lateral operation.

After the lapse of some days the tube was removed, when we were delighted to find that the patient had regained a perfect control over the sphincter — the urine was retained without difficulty. In order to facilitate the escape of any fragments which might still remain in the bladder, the wound was kept open by the occasional introduction of a bougie. A week after the operation had been completed, the bladder was carefully sounded when moderately distended with urine; and we fully satisfied ourselves that no fragments remained. Not one unfavourable symptom followed the operation.

The difficulty and loss of time occurring in this my first attempt at lithectasy I have been careful not to conceal, as I am convinced they might be avoided on a future occasion. Allow me briefly to allude to the causes of our embarrassments.

1st. The parts were in an unusually irritable condition when the operation was performed. In other words, the patient was suffering from a paroxysm of stone; a circumstance which we were only made acquainted with some time afterwards, as the patient most injudiciously concealed it from us, from a desire, natural enough perhaps, to be relieved from his torture as speedily as possible.

2ndly. The groove of the staff was too small in proportion to the size of the extremity of the dilator.

3dly. The dilator might have been greatly improved. The extremity of the tube was too thick, and the projection occasioned by the attachment of the bladder and silk bag greater than necessary.

4thly. The lithotrite cannot be used satisfactorily in an empty bladder, but I have somewhere seen a pair of lithotomy forceps with a drill passing through the joint, which I conceive would accomplish every thing desired.

Lastly, would it not be better to make the incision in front of, or anterior to the bulb, where the canal is so superficial that it could be opened by a mere scratch? It certainly requires no formidable incision to reach the membranous portion; still, it must be of some depth, and it occurs to me as being just possible that on introducing the dilator its extremity might be carried past the opening in the urethra into the surrounding cellular tissue. I imagine the bulbous portion would be dilated as easily as the membranous part of the urethra.

No greater boon has, I conceive, been conferred on the profession for many years, than the proposal, or revival, of an operation which renders the treatment of one of the most formidable of diseases comparatively so simple and so safe. I shall ever feel most grateful for the information derived from your little work. I am happy to have had so early an opportunity of practically testing its most valuable suggestion.—

Believe me, dear Sir, to be

Yours very sincerely,

J. G. Wright.

Observations on the foregoing Case.

When we reflect on the particulars so well and fully stated in the preceding history, it seems certain that the loss of time, and through this, the somewhat serious febrile attack which the patient suffered, may be attributed to defects of apparatus. Had the operation proceeded at once, it seems certain that the patient would have escaped with no greater amount of suffering than he experienced between the actual beginning and the ending of the process of dilatation and the extraction of the stone, that is, between the 9th and the 11th October. The external incision was made, and a passage obtained into the membranous part of the urethra, on the 27th September; the patient did not become unwell until the night between the 30th September and 1st of October. With sufficient apparatus, there was therefore ample time to have accomplished the dilatation and removed the stone, and as there is infinitely less risk of exciting irritation by the use of the fluid pressure-dilator, than of bougies, I believe that the business might have been achieved without the patient having suffered any the slightest constitutional disturbance. It is impossible not to admire Dr. Wright's very judicious management of the patient in the critical circumstances in which he was placed, through no fault or inadvertence of his own, but solely through the clumsiness and imperfection of his instrument. But in entering upon new courses there are always many unforeseen difficulties to be encountered and overcome, which do not meet the traveller upon the beaten track. From this time forward I apprehend that lithectasy will become an easy operation. The surgeon has now had leisure to familiarize his mind with the details of the procedure, to see clearly all that is wanted to bring the operation to a successful issue; and the instrument-maker now knows exactly what the surgeon requires on his part in the way of tools. Different cases will doubtless require somewhat modified procedures: the extent and kind of external incision would not be the same in reference to small and to large stones. Where the stone was small or of moderate dimensions, between the size of a cherry and a walnut, a cut in the mesial line would suffice; with a stone the size of a hen's or a turkey's egg, it might be advisable as suggested to me by Professor Fergusson of King's College, to make a triangular flap by carrying from the lower point of the incision in the line of the raphé, another short one on either side towards the tuberosity of the ischium, in front of the anus. I leave this to practical surgeons; for my own part, I feel averse to any extensive external wound in performing lithectasy; I should always be disposed to break down the stone, as Dr. Wright did, where it exceeded an inch or an inch and a half in diameter, although I am persuaded that with patience no difficulty would be experienced in procuring an outlet for a stone of two inches diameter, or more.) I fully agree with Dr. Wright in what he says with reference to entering the urethra on this side of the bulb. The division of the bulb is of no moment; in many urethras it is but very little if of any greater diameter than the rest of the corpus spongiosum urethræ, and has attracted particular attention solely from its being the commencement of that portion of the erectile tissue of the male organ.

R. Willis.

REPORT ON THE PRESENT STATE OF KNOWLEDGE OF THE NATURE OF INFLAMMATION.*

By T. Wharton Jones, F.R.S.

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(Abstract prepared by the Author for the Medical Gazette.)

Retardation of the flow of blood in the small vessels, coincident with dilatation of their caliber, and at last accumulation and stagnation of the blood-corpuscles in the vessels, constitute the first phenomena constantly appreciable by the microscope in the inflammatory process, as observed in the frog. The *macroscopical* phenomena of inflammation in man seem to warrant the inference that the *microscopical* ones are essentially the same in him as in the inferior animal. The explanation of

* British and Foreign Review, No. xxxiv.

these phenomena, therefore—their sequence and relations—is justly considered as the key of the whole theory of inflammation.

Is the dilatation of the small vessels primary, and the retardation of the flow of blood in them secondary, or is the contrary the case? That dilatation is primary, and retardation of the flow of the blood the necessary physical result of the preceding dilatation, is maintained by most recent authors. And this opinion is to be considered as just; but it does not embrace the whole truth, which appears to be this:—Dilatation is primary; but the retardation in the flow of the blood being greater than the dilatation will physically account for, can be, in part only, its physical effect. The other cause in operation is the same as that which at last determines the accumulation and stagnation of the blood, as will be explained below. By the accumulation of the blood, however, there is a secondary dilatation of the vessels—a dilatation from distension, but which more particularly implicates the capillaries—perhaps is the sole dilatation of which the capillaries proper are the seat.

Having thus determined that there is a primary dilatation of the vessels, the next subject of inquiry is as to the nature of the dilatation. Does it depend on an active state, or on a state of relaxation of the walls of the vessels? The prejudice that inflammation is a state of increased action of *all* the parts concerned, which has led some (justly believing that constriction is the active state of the vessels) to maintain that the vessels are constricted in inflammation, has led others (knowing that the vessels are really dilated in inflammation) to maintain that their dilatation is an active state.

But the conclusion to which every thing leads us is that which was first suggested by Vacca, and in corroboration of which microscopical observations were first adduced by Wilson Philip, and are now admitted by most authors on the subject, that the dilatation of the arteries in inflammation is a state of relaxation or paralysis, not of activity. The next inquiry is as to whether the capillaries and venous radicles have contractile coats, and are therefore subject to dilatation from relaxation.

Though constriction and dilatation of the capillaries and radicles of the veins are said to take place as well as constriction and dilatation of the small arteries, it is proper to observe that it is the latter alone which are seen under the microscope to be the seat of such marked constriction and dilatation of their caliber, as appear to be owing to an action of their coats of the nature of vital contractility. So marked is the difference in this respect between the small arteries and the capillaries, that whilst the caliber of the artery may be observed to become almost wholly obliterated for the time by contraction of its walls throughout the whole extent of the part of the vessel under observation, or at intervals to present the appearance of a series of strictures,—a varicose appearance, as Wedemeyer expresses it, the capillaries into which it opens continue to preserve their caliber little or not at all changed.

Not being satisfied that the capillaries and radicles of the veins have contractile walls, and to admit, therefore, primary dilatation from relaxation, Mr. Jones is disposed to believe that dilatation of the capillaries and radicles of the veins is secondary to the retardation of the flow of blood in the arteries, and is owing to distension from the accumulating blood.

It being thus certain, to use the words of Dr. Alison, that during the whole time when inflammation, and the effusion consequent on it, are most evidently going on, the condition of all the vessels (possessing contractile walls) leading to and passing through an inflamed part, is not one of contraction but of relaxation; the question before us, viz. whether the phenomena of inflammation can be explained by the alteration of the *vital powers of the vessels* in which the blood moves, is, Dr. Alison thinks, narrowed to this:—Does that state of relaxation afford a sufficient explanation of the changes which take place in the inflamed parts?

The effect of relaxation of the vessels is dilatation, and the effect of dilatation is retardation of the flow of blood; though, as has been said, and as will be shown below, the whole amount of retardation which takes place is not alone the direct physical effect of the dilatation. But putting this question aside for the present, let it be inquired what

effect the retardation of the flow of blood has in producing accumulation and stagnation of its corpuscles? Now when the velocity of the stream is diminished from any cause—whether one of a temporary nature or one that leads to inflammatory congestion—the colourless corpuscles become extricated from among the red ones, and come into contact with the walls of the vessels, where, rolling slowly along or actually becoming stagnant, they accumulate in great numbers.

Has the retardation of the flow of blood any influence in determining the accumulation and stagnation of the red corpuscles? Whilst the colourless corpuscles always accumulate and stagnate, when from any cause retardation of the flow of blood takes place, (being, on account of their want of attraction for the red ones, extricated from among them, and by virtue of their attraction for the wall of the vessels brought into contact with it,) the red corpuscles having, under ordinary circumstances, no such attraction for the walls of the vessels, pass on along with the plasma.

Accumulation and stagnation of the red corpuscles, not being, as is the case with the colourless corpuscles, determined by a retardation of the flow of blood in the vessels, how are their accumulation and stagnation brought about? Has the accumulation of colourless corpuscles itself, which results from retardation of the flow of blood, any share in determining the accumulation and stagnation of the red corpuscles?

Dr. Williams conceives that it has; that the accumulation of colourless corpuscles, and their remarkable disposition to adhere to the walls of the vessels and to one another, is the chief cause of obstruction of the circulation in an inflamed part, and that by entangling the red corpuscles among them; but Mr. Jones thinks that this opinion is not warranted by what is really to be observed by means of the microscope. At the time of stagnation of the red corpuscles there may be no greater number of colourless ones than may often be seen at a time when the circulation is going on without any tendency of the blood to stagnate. Besides, the red corpuscles can accommodate themselves in order to glide past obstructions,—a circumstance which shows how little likely they are, when *otherwise unaffected by change*, to be entangled by the colourless corpuscles or any other impediment not presenting a complete barrier.

Do relaxation and dilatation of the vessels, with retardation of the flow of blood, considered by themselves, act in any way in determining stagnation of the blood?

Henle* thinks that they do, and this in the following manner:—

As a physical consequence of dilatation of the vessels, a retarded flow of blood takes place. This retarded flow of blood, together with the relaxation and dilatation of the vessels, favours the exudation of serum; the consequence of which is, that the plasma of the blood in the part becomes inspissated by a preponderance of protein matter over the salts. This inspissation of the plasma determines endosmotic changes in the red corpuscles, in consequence of which they are disposed to aggregate.

Mr. J. cannot agree with Henle in the view that relaxation and dilatation of the vessels are the first step to stagnation, merely by virtue of their allowing a retardation of the flow of blood in the affected vessels, and a copious exudation of serum from them, by which the plasma becomes inspissated. He shows that stagnation of the blood must acknowledge some other essential cause than inspissation of the plasma. In fact, inspissation of the plasma is not at all under any circumstances the essential condition to the aggregation of the red corpuscles, either without or within the small vessels. When it exists it can merely promote the operation of the essential cause, when this is allowed to come into play. This is an important distinction.

Dismissing, then, as unsatisfactory, preceding explanations of the stagnation of blood in inflammation, Mr. J. asks *whether stagnation of the blood in inflammation may not be referred to an alteration of powers influencing the condition and the motion of the blood in the living body, and that independent of any contractions of the living solids?*

Dr. Alison having narrowed the question as to "whether the phenomena of inflammation can be explained

* Bericht über die Arbeiten im Gebiet der rationellen Pathologie seit Anfang des Jahres 1839, p. 45.

by alteration of the vital powers of the vessels in which the blood moves," down to this, viz. "Does the state of relaxation in which all the vessels are in inflammation afford a sufficient explanation of the changes which take place in inflamed parts?" concludes (p. 121) that "inflammation and its effects are inexplicable by any alteration of the contractile powers of the living solids concerned in it; and necessarily imply an alteration of vital properties, by which the constitution of the blood, its relations to the surrounding textures and its movements through them, are determined, but which are quite distinct from any contraction of living solids. That such living properties exist, (Dr. Alison goes on to say), that they affect the changes taking place at *insensible distances* among the particles of the blood, and that they are altered in inflammation, will hardly be denied by any pathologist. That they are capable of affecting the *visible* motion of the blood will appear a rash assertion only to those who have not accustomed themselves to consider the evidence by which it is supported."

The conclusion that Dr. Alison comes to is, that inflammation consists essentially in a local increase of a vital property of attraction existing among the particles of the blood, and between them and the surrounding textures, and with which other vital properties are connected, and simultaneously excited. That the proximate cause of inflammation, although affecting the constitution of the blood, does not reside in the blood only, but primarily in the agency on that fluid of the solids through which it passes in the capillary vessels, appears clearly from the limitation of inflammatory disease to a certain locality in the body, from the fact of its easy reproduction, for a long time or for life, in the vessels which have once been the seat of it.

After referring to the similar opinion entertained by Vogel and Emmert, Mr. J. remarks, that the appearances attending the stagnation of the red corpuscles are such as might be supposed to be the effect of a suspension of the conditions by which, in the natural state, the red corpuscles keep in the middle of the stream, neither adhering to the walls of the vessels nor to each other, and not readily entering the smallest capillaries; the effect in fact of the establishment of an attraction between the red corpuscles on the one hand and the walls of the vessels on the other, as well as among the red corpuscles themselves, instead of the absence of attraction, or of the actual repulsion which naturally exists. But supposing all this,—supposing that attraction does come into operation, the question remains, How is the attraction called forth? or what are the conditions on which it immediately depends? or even which attend it?

Emmert, in the way of explanation, indicates some of the conditions attending the operation of the attraction. Thus he points out that constriction of the capillaries (small arteries) and the attraction between the parenchyma and blood-corpuscles, are in antagonism. That when the constriction of the capillaries is *great*, the attraction between the parenchyma and blood is *small*; hence there is no congestion. When, on the contrary, there is *relaxation* and *dilatation* of the capillaries, there is *great attraction* between the parenchyma and blood; the consequence of which is accumulation and stagnation of red corpuscles.

The indication of these relations is a very importaut step towards the cause of stagnation.

Though in answer to the question whether the phenomena of inflammation can be explained by alteration of the vital powers of the vessels in which the blood moves, as narrowed by Dr. Alison down to this—"Does the state of relaxation in which all the vessels are in inflammation afford a sufficient explanation of the changes which take place in inflamed parts?" the negative conclusion may be come to along with Dr. Alison, viz. that inflammation and its effects are inexplicable by any (mere) alteration of the contractile powers of the living solids concerned; still the question may not be so narrowed, and reason may be seen to admit that though mere relaxation does not afford a sufficient explanation of the changes which take place in inflamed parts, the condition on which the relaxation depends may also be the condition of the changes, viz. suspension of nervous influence. Hence, relaxation, though not a cause of, would be coincident with the changes, and even play a certain part in them. The relations above referred to, as pointed

out by Emmert, speak strongly for this coincidence.

Before entering upon an exposition of the theory which appears to the author of this Report to harmonize most completely with all the facts of the case, he postulates the following propositions, delaying what proofs may further be required to support them.

1st. That the constriction and dilatation of the caliber of the small arteries at least, if not of the capillaries, is owing to contraction and relaxation of their walls in virtue of the vital endowment of contractility or tonicity which they possess; the exercise of which contractility is dependent on nervous influence.

2d. That the constant moderate exercise of this endowment on which the ordinary state of tone of the vessels depends, is determined by the constant moderate discharge of nervous influence.

3d. That whilst a greater state of contraction of the vessels than ordinary is owing to an increased discharge of nervous influence, the relaxation, atony, or paralysis of the walls of the vessels on which their dilatation depends, is owing to the suspension of nervous influence.

4th. That the relaxation with dilatation of the vessels from suspension of nervous influence, is the precursor of the retarded flow of blood and stagnation.

How the suspension of nervous influence from the walls of the small arteries on which their dilatation depends is produced, involves the question of the mode of operation of the exciting cause of inflammation. To this attention will by and by be directed. At present, inquiry has to be made how the suspension of nervous influence from the small arteries, and consequent relaxation and dilatation of these vessels, are connected with the retardation of the blood and subsequent stagnation.

In entering upon this inquiry, Mr. Jones in the first place remarks that it appears evident that the agglomeration of the red corpuscles of newly abstracted blood is owing to their being withdrawn from some influence under which they were held while in the body, an influence which keeps down the tendency to aggregate.

The circumstance that the red corpuscles of extravasated blood aggregate, shows that that influence is exerted on the blood, in no part of the body, save within the vessels. But the circumstance that the red corpuscles do aggregate in inflammation within the vessels, shows that the influence here spoken of may cease to be exerted on the blood even there.

Now it has been seen that it is not when the vessels are constricted, and consequently when they are receiving nervous influence, but when they are dilated, and when consequently there is a suspension of nervous influence from them, that aggregation of the red corpuscles and consequent stagnation of blood takes place in the capillaries. The natural inference from this is, that the influence which keeps down the tendency of the red corpuscles to aggregate is communicated to them by the nerves which accompany the small vessels, arteries as well as capillaries, as the blood passes through them.

When, then, the nervous influence is withdrawn from the small arteries, and they have in consequence become relaxed and dilated, and when any nervous influence which may naturally be exerted on the capillaries is from the same cause withdrawn, the blood flows slowly through the dilated small arteries into the capillaries, as into an indifferent cavity, and is in the same condition as regards tendency of the red corpuscles to aggregate, as is blood when newly drawn from the body, or when extravasated.

Aggregation of the red corpuscles accordingly takes place, some at the same time adhering to the walls of the vessels. This latter phenomenon is to be attributed in like manner to the suspension of nervous influence from the small vessels. For it is to be observed that the circumstances of the red corpuscles keeping together in the axis of the stream, and aloof from the walls of the vessels in the natural state of the circulation, may be accounted for with Mr. Martyn Roberts by the nervous influence annulling the attraction of adhesion, or causing a repulsion between the red corpuscles and walls of the vessels, at the same time that it does so among the red corpuscles themselves. The suspension of the repulsion between the red corpuscles and walls of the vessels, also allows the entrance of red corpuscles in numbers, into the very small vessels into which

they before occasionally and few in number only entered.

The retarded flow of blood which precedes the stagnation can be admitted to be in part only the physical effect of the dilatation of the paralysed vessels,—it is greater than the dilatation appears physically to account for. The other cause appears, from what has been above said, to be the commencing attraction among, and the agglomeration of, the red corpuscles, as also the commencing attraction between them and the walls of their containing vessels.

Mode of action of the exciting Cause of Inflammation.

That the exciting cause of inflammation acts through the nervous system had been supposed by many, and had indeed been acknowledged as certain in the case of inflammation of internal organs from cold ; but no detailed explanation was attempted of the nature of the part which the nervous system plays until recently. For this pathology is indebted to Henle* and Stilling†

Though explaining differently its mode of action, Mr. J. recognizes with Billing and Henle, as the essential condition of stagnation of the blood in inflammation, suspension of nervous influence from the small vessels, with consequent relaxation of their coats, and dilatation of their calibers.

The theory which Henle, by his physiological investigation of the subject, has been led to form of the mode in which the exciting cause of inflammation determines the suspension of nervous influence from the small vessels on which their relaxation and dilatation depend, is this :—

The exciting cause, of what nature soever it be, whether external or internal, acts primarily on sensitive nerves, exalting their activity. The motor nerves of the vessels which have sympathetical relations with the excited sensitive nerves, are secondarily affected. But this affection of the motor nerves of the vessels, which supervenes by reflex action on the excitement of the sensitive nerves, is not a corresponding state of excitement, but an opposite one of depression, of suspension of action, of paralysis.

This form of sympathy, in which the state of excitement of one nerve determines depression of another, Henle calls *antagonism ;* the name of *sympathy* in a restricted sense being retained for that form in which a state of activity of one nerve is called forth by a corresponding state of another. This latter form is more common in the domain of the cerebro-spinal system; the former in the domain of the ganglionic system, the source of the nerves of the vessels.

Sometimes, however, sympathy is exemplified in the vessels by constriction supervening on irritation and preceding dilatation. But in most cases relaxation and dilatation of the vessels from suspension of nervous influence, are the primary effect of an irritation, no matter whether it have been violent or slight. Hence Henle contends that the relaxation of the vessels on which their dilatation depends cannot be a mere consequence of their exhaustion from previous action, as has been suggested by Alison (p. 117) and Billing, but can only be antagonistic. Into this, however, it is not necessary to enter; for, provided suspension of nervous influence and consequent dilatation of the vessels do take place, it is indifferent for the theory of the proximate cause of inflammation above expounded, whether that state of the vessels be the result of antagonism, or of exhaustion succeeding a state of activity induced by sympathy.

In regard to the inflammation of an organ which occurs after section of some part of the sympathetic, Stilling declares it to be owing simply to paralysis of the walls of the vessels, from destruction of the source whence their motor nerves are derived. And this, taken in conjunction with the theory of the proximate cause of inflammation above enunciated, appears to be the true and natural explanation.

The inflammation of the eye after section of the fifth pair, and of the lungs and stomach after section of the par vagum, Stilling also holds to be the effect of paralysis, but determined in the following indirect manner :—He supposes that a reflex action from sensitive nerves to the nerves of vessels is

* Pathologische Untersuchungen, 1840, and also "Bericht," ut supra.

† Physiologische, pathologische und medicinisch-praktische Untersuchungen über die Spinal-irritation, 1840.

constantly going on, and is a necessary condition to the activity of the vessels. When, therefore, the sensitive nerves are cut, a suspension of this reflex action takes place; the consequence of which is paralysis of the nerves of the vessels,

Henle objects to this view of Stilling—and the objection is also applicable to Alison's—that were the integrity of sensitive nerves a *conditio sine qua non* for the normal function of vessels, loss of sensibility must in every instance be followed by stagnation of the circulation, which is not the case; for there are anæsthesiæ in which the circulation in the part goes on: when the nerves in the leg of the frog are cut, for example, the circulation nevertheless continues.

According to Henle, the stagnation of blood which takes place after section of sensitive nerves, the fifth pair, the par vagum, &c., belongs to a category, including those stagnations, along with those which occur after section of branches of the sympathetic. It must only be granted that sympathetic turges, or nerves of vessels, are mixed with those so-called sensitive nerves. In paralysis from affection of the central ends of these nerves, the vessels are not necessarily implicated, and therefore remain active; in the section of the nerves of the extremities, as in Hausmann's cases, they were not injured, because they accompany the vessels.

According to Magendie, the inflammatory symptoms in the eye are more violent after section of the first branch of the fifth than after section of the trunk above the ganglion of Gasser. This fact, which is inexplicable according to Stilling's view, is, Henle thinks, easily intelligible according to his;—for in the first case, all the nerves of the vessels, including those contributed by the sympathetic, are cut; in the second case, probably only a small number, which are from the first mingled with the trigeminus.

The inflammation which sometimes accompanies spinal irritation, or neuralgia, Stilling explains in the same way as he does that which results from the section of the fifth pair; he supposes that in neuralgia the sensitive nerves are in a state of paralysis. Henle maintains the opposite, and explains the inflammation on his principle of antagonism, above mentioned, thus:—Neuralgia being a state of excitement of a sensitive nerve, determines antagonistic paralysis of the motor nerves of the vessels of the part, whence relaxation of their walls and dilatation of their caliber.

Exudation.

Immediately after or during the stagnation of the blood, exudation commences. From being at first serous, the exuded fluid comes at last to be pure plasma, or at least a fluid containing a greater or less quantity of fibrin.

None of the corpuscles of the blood pass out along with the exuded fluid so long as the vessels are entire. But it is often observed that at certain points the walls of the vessels in which the blood was stagnated have given way, and permitted an extravasation of both red and colourless corpuscles.

With exudation is completed the inflammatory process, properly so called.

To the Editor of the Medical Gazette.

Sir,—In looking into the Physiologische und Anthropologische Chemie of the late Dr. J. F. Simon, (Berlin, 1842) which has now for the first time come into my hands, I find a somewhat similar opinion entertained in regard to the production of the fibrine of the blood, as that which I advocated in my Observations on the Blood, in the British and Foreign Review for Oct. 1842, and to which I again refer in my Report on Inflammation, just published. Dr. Simon's work bearing date April 1842, he of course preceded me, and I am anxious to make this acknowledgment of his priority. Dr. Simon in his preface, states, that he had already communicated his views regarding the production of fibrine, in the autumn of 1840, at the meeting of Naturalists held at Erlangen.

I am, sir,
Your obedient servant,
T. Wharton Jones.

London, April 12th, 1844.

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* See also Macartney on Inflammation, p. 133.

ARE PHYSICIANS COMPETENT AUTHORITIES OR NOT ON ANATOMICAL QUESTIONS?

To the Editor of the Medical Gazette.

SIR,

MY attention has just been arrested by a communication to you in your number of March 22d, by Mr. Earle, of Cheltenham, on the subject of Inflammation. I cannot help thinking that Mr. Earle in that communication has been greatly wanting in courtesy to Dr. Copland, and that he also very wantonly and wrongfully casts a slur upon the branch of the profession which has hitherto maintained, and deservedly maintained, the highest place in the general eye, for its science and practical skill—that of the physician. Mr. Earle ventures to tell us, that all who have adopted a certain opinion, which he disapproves, were "Physicians; that is to say, men who cannot be received as authorities on an anatomical question." And wherefore not, Mr. Earle? Who was William Harvey, or Albert Haller, or Alexander Monro, or William Hunter? Perhaps Mr. Earle wots not of these immortal names, or that their owners in their lives were all physicians. Without the last mentioned, the glory and honour of British surgery never could have sprung into being. Familiar himself with all anatomical and physiological science, which he had acquired by long and arduous study, Dr. William Hunter poured the vivifying flood of his matured knowledge into the mind of his brother, John Hunter, and thereby enabled him to become all that he afterwards became. Verily, William Hunter cast a lump of shapeless clay upon the wheel, and moulded it into a form that is imagined by mankind, in their admiration, as even a thousand times more beautiful than it was in fact: the Physiologist and Surgeon, John Hunter, was the unquestionable handiwork of the Physician and Anatomist—William Hunter. At the present day, if the business of teaching anatomy in London be mostly in the hands of surgeons, there are still two of the leading schools where that important duty is performed by physicians — University College, and King's College.

As to Mr. Earle's speaking of any theoretical view of Dr. Copland, as "a subtile poison extending over all the doctrines contained in the Dictionary of Practical Medicine," the allegation will be treated as it deserves, by all who know aught of the matter. Who ever reared a more honorable monument to his science, his practical acquaintance with disease, and his industry, than James Copland has raised to himself in his Dictionary? A learned physiologist he, and I stake my credit, from personal knowledge of the man, at least as good an anatomist as Mr. Earle.

Your obedient servant

A PHYSICIAN AND AN ANATOMIST.

London, April 12, 1844.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Scrofula; its Nature, Causes, and Treatment; and on the Prevention and Eradication of the Strumous Diathesis. By W. TYLER SMITH, M.B. 8vo. pp. 172. Churchill.

As our commercial speculators are on the watch to act upon an ill-supplied market, and at the favourable moment to throw in a cargo or so of the article wanted, so our literary *entrepreneurs* —we are forced to go to the French for a polite word—are wont to look down upon their market, and seeing a gap, as they conceive, to essay forthwith to stop it. The book before us has intrinsic marks of the *stop-gap* about it. We have been long without any work on scrofula, of the least likelihood, in English; but it is not by an essay, written with however fluent a pen—and the pen that wrote this essay *is* fluent—from a very limited circle of personal observation, and without the slightest pains to gather materials from abroad, that the deficiency is to be supplied. In the whole range of disease, there is none into the causes and essential nature of which we are more interested in inquiring than into those of scrofula. Dr. Smith's book does not dispel one shade of the deep darkness in which we are involved in regard to such information; it is not even a little candle seen amid the gloom. We have not actually made up our minds as to what is and what is not scrofula, and Dr. Smith does in no way help us to do so. Surely he who undertakes to write ought to have it for his object to instruct. But the same sources of information that were

open to Dr. Smith are open to us, and we care not to have it at second-hand that Carswell thought this, and Louis thought that; and Lombard, and "the great French pathologist Andral," and Dr. T. J. Todd, and Professor Müller, thought t'other. What does Dr. Smith think? That "it is difficult, if not altogether impossible, to give a concise and direct theory of its nature and causes," (p. 16); which, being translated into the vulgar tongue, with assistance from the context, can mean nothing more and nothing less than that Dr. Smith knows nothing at all of the matter.

What signifies it to insist that an *endemical disease is hereditary?* Of course it is; how can it be otherwise, where all are, although not alike, we must presume, yet where all are more or less exposed to its causes? As to Dr. Smith's *atavism*—"Mecænas atavis edite regibus.' Hor.—by which he means, that in a highly scrofulous family the disease may pass over one generation, but visit the next; if it proved any thing, it would prove the non-hereditary nature of scrofula. But we hold the *atavism* to be a vulgar and erroneous prejudice.

In the chapter on the "Signs of the Strumous Diathesis," we look in vain for any thing either new or proper to our author. When he says, "It is probably in the blood that the greatest aberration from the healthy state exists"—we add, why did not Dr. Smith examine the blood particularly, by physical and microscopical and chemical means, and make out the aberration? This would have been something; but alas! no; the likelihood of the vitalizing fluid being most dissimilar from the standard of health is all that is hinted at. The *blood* is discussed in some twenty-three lines or so; the *skin* and *hair* have a good page and half devoted to them.

In speaking of the "Exciting Causes of Scrofula," Dr. Smith lays, and we believe wisely lays, great stress on insufficiency of food. Scrofula is said to have long prevailed among the boys of Christ's Hospital. "I am informed," he says, "that fresh vegetable food is almost excluded from the dietary" there. Now, why did not Dr. Smith positively ascertain whether the thing was so or not? He might have done good by insisting on the absurdity of denying so wholesome an article to the children, if they have it not;—uncertain whether they have it or not, however, his observations fall senseless on the eye, as they would, were they repeated, fall meaningless on the ear.

On the important matter of Treatment there is nothing of the slightest moment. When the Doctor ventures on a German word again, let him make sure by his dictionary that it is the right one, and properly spelled. In speaking of hydropathy, the absurdities of which he condemns, like a clever man, as he is, though he has not written a good book on scrofula, he says, "*Das schwetzen* receives especial countenance from the water-doctors." Schwetzen has a good German physiognomy; but we believe him to be no true son of the land of the oak; he is a bastard wherever begotten. We find *Schweisse* and *schweissen*, or *schwitzen*, as the noun and the verb signifying 'sweat,' and 'to sweat.' How the act of sweating would be compounded from these we are not Germans enough to know; but we remember the devil says to Dr. Faustus: Ihr habt mich weidlich *schwitzen* machen.

Iodine is Dr. Smith's *cheval de bataille* in the treatment of scrofula. He is "strongly of opinion that where patients can be well fed there are very few cases of scrofula of recent origin that may not be cured by its internal and external use, and but few cases of long standing that may not be greatly ameliorated" by medicine. Wherefore *opinion* in such a conjuncture; why not *knowledge?* Why does not Dr. Smith say that in his experience he has found iodine a specific in the great majority of the cases he had tried it in? When he has tried it in a score of what we should call *good cases* in medical parlance, we promise him very confidently that he will alter his opinion, and that his knowledge will be more precise than it is at this present moment.

Now, although we have written what we fear Dr. Smith will esteem a severe and unkind criticism of his essay, we venture to assure him that we have set down nought in either malice or anger. We rise from the perusal of his work with a favourable estimate of his abilities;—it is scholarly and well composed: but he ought not to have ventured on such a subject with no greater amount of preparation and experience than he displays.

MEDICAL GAZETTE.
Friday, April 19, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO

THE GRINDING SYSTEM.

THE TRUE RADICAL REFORM THAT IS REQUIRED.

THAT "use makes perfect" is acknowledged on all hands to be true; and there is, perhaps, no art or science, among the many that are exercised in this great metropolis, which has arrived at higher perfection, than that which has CRAMMING the young men who are about to present themselves for examination at Surgeons' College, and Apothecaries' Hall, for its object. There is one gentleman in particular who excels in this art, who knows to a nicety when each of the subjects who commit themselves to his care is in a state fit for presentation at Bridge Street, Blackfriars, or Lincoln's Inn Fields—just as the feeders of the geese at Strasburgh know to a tittle when each animal's liver is in the proper state to be made an element in the celebrated "Paté de foie gras." This gentleman, a man of naturally acute mind, of liberal education, of the most untiring industry, and wonderful physical capabilities—a perfect cyclopædia of the medical and accessory sciences—has studied the art of CRAMMING for the Hall and College so long, and so closely, that there is probably no single question that was ever asked at either of these dreaded institutions which he has not down, black upon white. It is impossible to take him aback; he even knows the proper answer for each examiner; for the answers differ in different cases:—"If A asks you so and so, you will answer thus; but if B asks you the same question, you will answer differently, thus." The respectable Society of Apothecaries were surprised and delighted during a portion of one season with the wonderful and accurate knowledge which the young candidates for their license displayed, without any distinction, of the classes, orders, genera, and species, of the specimens of rare plants submitted to their inspection. Many a professed botanist would have said, "I see it is a pomaceous plant, or a rosaceous plant, as the case might be, but I am not acquainted with the species." Our young gentlemen who, in the fields, would have been puzzled between a nettle and a dock, had the whole story pat—natural order, according to Jussieu and Decandolle; sexual position, according to Linnæus; class, genus, species, name, properties, and habitât; nothing was wanting. The worthy Society were delighted: what botanists, what accomplished young men, were they sending forth under their auspices into the world! But, alas the day! the uniformity of the extent of botanical knowledge possessed begat suspicion, and it was by and by discovered that the specimens destined for the Hall paid toll of branch and blossom each, in its passage thither, and that the accomplished botanists were geese crammed upon the ipsissima specimina, and who, as aforesaid, could not have analyzed and assigned its place to the commonest weed of the fields.

This system of grinding, as now pursued, however, is a serious and a growing evil; there is, in fact, moral contamination in it, and means for its suppression ought to be concerted and enforced. Young men come up to London, mostly believing that they have a serious task before them, well disposed to make the best of the opportunities which their parents and friends, often at great sacrifice to themselves, afford them of acquiring a knowledge of the profession which is to furnish

them with bread, and to give them their standing in society. But they too commonly soon discover that there is another, and an easier, and a shorter way of getting up the information which is to enable them to pass the Hall, and, alas! as they often ignorantly think, that is to give them the knowledge which is also necessary to commence the practice of their profession withal. It is only when it is too late to recal misspent time that they find out their error, and begin to curse their folly; it is when they discover themselves condemned to hopeless drudgery in the lowest ranks of the profession, and excluded from the society of all that is respectable above them, that they bitterly, but vainly, regret the days, and months, and years, spent in folly and dissipation, which ought to have been given to mental culture, to preparation for the responsible duties of the medical practitioner.

How shall the evil be assailed; where lie its roots, that they may be struck at? In ignorance mainly; in self-interest; in the want of an efficient police of our medical schools; and also, in some considerable degree, in the constitution of the examining bodies of the Apothecaries' Company, and Surgeons' College.

There is at this moment a kind of moral disorganization prevalent in most of the medical schools of London, which calls far more loudly for reform than many things which occupy a larger share of the general professional attention. At some of these schools the classes are deserted; where there ought to be from sixty to seventy listeners, there will be seen three or four, eight or ten: one lecturer last summer began his Course, to which he had at the time between thirty and forty entries, with a single auditor; at his second lecture he had none!

And yet every young man who pays his fee to these lectures, knows that at the end of the session he will have his schedule—filled up as to attendance by himself—duly signed by the lecturer. He who should refuse would have no one to enter to him: if A. be so scrupulous as to require attendance before he signs, the thing is soon known; and as B. will put his name to the indispensable certificate without any such condition, of course B. is preferred to A.;—the knave soon drives the honest man from the field.

The College of Surgeons' and Apothecaries' Company, if they require attendance, ought to take the responsibility of enforcing it out of the hands of the lecturers; the lecturers cannot compel attendance. These societies are not so poor but that they could pay a certain number of respectable officers, say two or three each, whose duty it would be to visit every class-room in London, and, furnished with a list of the enrolled, to ascertain, by calling over the names, that they were present. The periodical registrations at the Hall and College are absurd and nugatory, and altogether incompetent to meet the evil. Fares by the second and third class railway carriages are not so high as to make the trip to London at each of the trimestral periods a matter of great consideration. And then, what signifies the young man's incessant presence in town, if his mornings be passed in bed, his noons in loitering about the streets, and his nights at the theatre, the smoking divan, or some such elegant place of entertainment as the Cyder Cellar, the Coal Hole, or the Garrick's Head? He had a thousand times better be in the country, engaged in the occupation useful to another at least, if not to himself save as a means of present existence, of compounding and preparing medicines. He would still say to himself: "I live meantime, and what signifies attendance at the lectures on chemistry, and materia medica, and anatomy and physiology, and surgery and medicine, botany, midwifery,

legal medicine, and all such stuff, when for five pounds, Power, or Steggall, or some other apt hand, will give me as much in three months of these various branches of difficult lore as they know at the Hall and the College, and as will carry me through either of them triumphantly? And what if I *am* plucked? The Grinder has engaged to see me through for the money paid, and he must just take me in hand for six weeks or three months more." The disgrace of rejection is thus readily shifted from their own cowardly shoulders to the broad back of Mr. Power or Dr. Steggall: it is the business of these gentlemen to get the student through, rather than his own; if they fail, the discredit attaches to them rather than to him. And in this light is this thing actually viewed. It is not said, "Mr. so and so was plucked last night, and Messrs. so and so passed;" but it is, "one of Power's men or one of Steggall's men was plucked last night, and seven or more of Power's or Steggall's men passed!" There is quite an *esprit de corps* in the whole affair, in which both the student and the public are left entirely out of the question. Each triumph is a victory of the grinder over the corporate bodies; they are beaten, they are *done;* each defeat is the grinder's disgrace, not the idle student's. Nor is rejection to be viewed as any the slightest security to the public against intruders into the sanctuary of Æsculapius. No, it is only that the grinder had not achieved his work well in the particular instance, that the Hall or the College was not beaten, was not *done*, for the moment; it will certainly be so before three months have elapsed.

As for the information that is obtained by this system of cramming, it is a vapour, a shadow, more flimsy and fleeting than the morning mist before the sun. It is all imbibed in three months; in three months more it is all gone; of principles, foundations, there were none. It is an extemporaneous, pasteboard castle, built upon sand. It is the momentary agitation of the stagnant pool by a stone cast into its middle—there is a ripple and a stir for an instant, and then all is smooth and motionless and unimpressed as before. Oh, it is a vicious and an unworthy system, such as no well-informed, high-principled young man would be a party to; it is a cheat and a lie, both to himself and the world. The ignorant young man thinks he is dieting upon solid food; and by and by he finds that it was ashes, and a dream with which he was banquetted.

Whence the idea so strongly impressed upon the medical student's mind, of the necessity of subjecting himself to this degrading, this deceitful system of grinding? It exists more especially with reference to the Hall,—young men rarely grind for the College; and the very soul of the evil we believe to be this: the extent and multifarious nature of the subjects insisted on at the *one* examination at Apothecaries' Hall, and the construction of its Court of Examiners—men all past the meridian of life, and, with few exceptions, themselves of limited education and acquirements. These men's ideas turn perpetually round within a very narrow circle, and one and all they have certain crotchets, right or wrong, which they must have indulged; unless they have the special answer to the special question, they reject the candidate. We have been informed of a young man who carried off the gold medal at Mr. Daniell's class against all competitors, competent in the laboratory with his tools about him, to undertake the most difficult analysis, brimful of all the science of modern chemistry, rejected upon a simple chemical question, by an elderly gentleman at Apothecaries' Hall! Nor is this any single instance—the

like occnrs every now and then; young men who have been noted for their regularity in the anatomical theatre, and their diligence in the dissecting room, who have borne away the anatomical prize in face of their fellows, have been plucked upon an anatomical question in the same evening that lurdanes, whose faces were never familiar at any theatre, save Astley's, the Surrey, or the Strand, have passed triumphantly, and added another to the many wreaths—of withered leaves—that already crown Mr. Power's and Dr. Steggall's brows. These Courts of Examiners, both at the College and Hall, want new, young blood infused into them; and no individual examiner should have the right of rejection in himself. Where there is a doubt, a majority of the court should forthwith be constituted a Committee for testing fitness, and the decision of this, and this alone, be allowed to be final.

But we have gone far beyond our usual limits in these remarks, hurried away by the all-importance of the subject. It will afford us theme for further commentary.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, April 9, 1844.

The President in the Chair.

On the Oxalic Acid Diathesis. By H. Bence Jones, M.A. &c.

The author commences his paper with a quotation from M. Vigla, who, in 1838, says, "Nous avions frequemment observé dans les sediments ou les cremors de l'urine de semblables cristaux (octaedriques) que leur forme aurait pu faire supposer être formés de chlorure de sodium, si la solubilité de ce sel, et la petite quantité qui s'en trouve dans l'urine, avaient permis de s'arrêter à cette idée.

Dr. Golding Bird, in 1842, stated that these octohedral crystals were oxalate of lime. No chemical proof having (as far as the author knows) been given, he was led to analyse the sediment. On examining urine for this purpose, the very frequent occurrence of these crystals in rheumatism was observed. In one case, in which the rheumatism was slight, the influence of diet and exercise on the mixed deposit of urate of ammonia and oxalate of lime was made the subject of experiment.

In other cases in which the crystals occurred, the symptoms were altogether different, irritation of the urinary organs being the most prominent. The concretion of the crystals into oxalate of lime gravel seemed (in one case at least) to be the cause of this diversity of symptoms.

The author observes that these crystals do not often occur in sufficient quantity to admit of analysis, but in Oct. 1843, he examined the urine of a patient of Mr. Cutler's, and at the same time three small renal calculi, which had been passed in July, August, and September. The urine under the microscope contained multitudes of octohedral mixed with some crystals of uric acid. All the calculi consisted of oxalate of lime mixed with uric acid.

The author has also examined cases of acute rheumatism, and always found the presence of these octohedral crystals in the urine of patients labouring under this disease. This deposit is also not unusually found mixed with urate of ammonia in chronic rheumatism. In one case he was enabled to make some experiments on the effects of diet and exercise on the deposit of urate of ammonia, and in it he observed that the octohedral crystals varied in quantity at different hours of the day. The daily results of this experiment are given very minutely, during the four weeks it lasted.

The author states it would be easy to multiply examples of the connection between octohedral crystals and rheumatism, but as it indicates no variation in the treatment of the disease, the fact seems only interesting as shewing the close connection between the red deposit and octohedral crystals, and thus giving additional support to the theory of Professor Liebig regarding the origin of oxalate of lime.

The presence of octohedral crystals in the urine is frequently accompanied with symptoms of a totally different kind. The patient complains of pain in the loins, frequent desire to pass urine—which is sometimes small in quantity, at other times so large as to simulate diabetes. There are sudden calls to empty the bladder, and if they are delayed considerable pain is produced. The urine when examined contains only a slight cloud, which does not disappear on the application of heat. When examined by the microscope, this cloud is seen to consist sometimes entirely of octohedral crystals; more frequently of these crystals mixed with globules of mucus, and sometimes there are large and small scales of epithelium.

The symptoms closely resemble those produced by a small calculus in the kidney; and in one case they suddenly ceased after

sharp pain in the course of the right ureter, and slight retraction of the testicle.

The author concludes by observing that the treatment which has proved most beneficial has been that which improved the general health. In two of Mr. Cutler's cases the symptoms appeared to follow mental anxiety. Medicines had little effect, but as the cause for anxiety disappeared, the symptoms ceased.

Case of Aneurism of the External Iliac, in which a Ligature was applied to the Common Iliac Artery. By Richard Hey, Esq., F.R.C.S., Surgeon to the York County Hospital.

The patient, a gentleman aged 40, perceived, 10th November, a small hard tumor in his left groin, above the centre of Poupart's ligament. Three days afterwards he had severe pain in the part, and on the following day the swelling increased in size, accompanied with pulsation. The tumor gradually enlarged, assumed at one part a conical shape, and the skin was tense and red. By moderate continued pressure the swelling could be reduced in size; but it resumed its former magnitude when the pressure was taken off. It was resolved, in consultation, to apply a ligature to the common iliac artery, which operation was performed by the author on December 3. At this time the tumor measured six inches across, in a transverse direction; six and a half longitudinally; and projected three inches from the plane of the abdomen. At one point it was about an inch and a half from the navel. The incision was begun $2\frac{3}{4}$ inches above the navel, and 3 inches from the median line, and was carried six inches downwards, in a semicircular direction, with a prolongation of an inch and a half in a straight line outwardly. The layers of muscles and fascia transversalis having been divided to the whole extent of the incision, the peritoneum was gently separated from the parts beneath, and the common iliac artery was easily reached. A little time was occupied in scratching through the sheath with the point of the aneurism needle; after which it was passed under the artery, from within outwards, armed with a double ligature of staymaker's silk, and the operation completed. The pulsation in the tumor ceased immediately after the artery was tied. The patient proceeded on the whole favourably after the operation, except that he was in great danger at one time from an accumulation of hardened fæces in the rectum. The tumor gradually subsided in size; and both legs were nearly of the same temperature, the affected limb being kept surrounded with flannel. A week after the operation pulsation was felt in the anterior tibial artery. On the 28th day the ligature was found loose in the wound, and removed. About the 20th of January the patient was free from complaint, and was able to walk about.

Mr. Hey, of Leeds (*nec deficit alter!*), entered into a few particulars in addition to those given in his paper. The limb, after the operation, was merely involved in the finest, softest flannel; no other measures to maintain the temperature at a point which was held compatible with its life were found requisite. He spoke of the advantages of the incision which he had adopted over that which has usually been chosen, and stated that he believed he should have felt little or no greater difficulty in putting a ligature around the aorta above its bifurcation, than he did in securing the common iliac: indeed there was no difficulty experienced in doing this; the only pause in the procedure was owing to the aneurism needle with which he attempted to open the sheath of the vessel having been too much bent; Mr. Teale took it from his hand, straightened it, and immediately afterwards he had the artery disengaged. He adverted to the rapidity with which the aneurism had increased, and the great risk that was incurred by even the few days' delay which the hesitation of the patient to submit to a formidable operation had occasioned. In three weeks, it had grown from the size of a hazel-nut to a tumor which must have been as large as the largest shaddock. There were even apprehensions entertained that it might burst in the course of the manipulations inseparable from the operation. The sinus formed by the ligature did not heal, and the discharge from it having suddenly increased greatly, it was found that the aneurismal sac, in its greatly reduced state, had suppurated. The only unpleasant symptom from which the patient suffered during his convalescence was severe spasm of the rectum, tenesmus, and a sense of weight and bearing down, which it was apprehended at one time would make the remainder of the patient's life miserable. By and by, however, it was fortunately discovered that the whole of the patient's misery in this direction was occasioned by the presence of a large mass of indurated fæces within the bowel. This being broken down mechanically, and removed, the patient was immediately relieved, and then went on satisfactorily.

The President inquired whether the patient complained of any weakness in the limb afterwards?

Mr. Hey replied that he did, but only occasionally, complain of slight weakness in the ankle.

Sir G. Lefevre adverted to a successful case of ligature of the common iliac, performed by Dr. Solomon, of St. Petersburg, the particulars of which Sir George had himself transmitted to this country. He

was pleased to learn that his account had been published in the MEDICAL GAZETTE.

On a question as to the issue of the operation of tying the common iliac, the President enumerated several instances in which it had been done; and Mr. Paget referred to the first volume of the LONDON MEDICAL GAZETTE for the Session 1842-43, for an account of all the cases on record.

On Obstructions of the Pulmonary Arteries.
By JAMES PAGET.

THE obstructions treated of are those produced by clots of blood formed during life. They occur in nearly all cases in which the capillary circulation through a part of a lung is prevented for a considerable time before death: and this, in consequence of the arrangement of the pulmonary arteries, which do not anastomose, except at their smallest branches and in the capillary system; so that whenever any part of that system is obstructed there must be a stagnation of the blood in all the branches of the arteries leading to that part. Branches of the pulmonary arteries are usually found filled by old coagula, in cases — 1st, of compact pulmonary apoplexy; 2nd, of extreme œdema of the lungs, especially in that form which is attended by peculiar rottenness of their texture, and which is apt to supervene in old persons upon disease of the heart, or emphysema after repeated attacks of bronchitis; 3d, of pneumonia with solid deposit; 4th, of cancer of the lung, when cancerous matter has been conveyed by the circulation into the branches of the pulmonary artery. Cases of the occurrence of such coagula in these several diseases are related.

But besides these cases, in which the formation of the coagula is in a greater or less degree the consequence of obstruction of the capillaries of the lung, there are others in which it appears as the chief and primary disease.

Three such cases are detailed. In all of them numerous branches of the pulmonary arteries of the second, third, and more distant orders, were completely blocked up by coagula, which had evidently been formed long before death, and besides which no sufficient cause of death could be found. In one of the cases some of the coagula had become organized, and formed pale, firm, bands and loops attached to the walls of the artery. In two of these cases there was no indication whatever of inflammation of the pulmonary artery, or its branches, having existed: they were in all respects healthy, except in having spots of yellow deposit in their coats, a change which the author states to be very common in the secondary and smaller branches of the pulmonary artery. In the last case related, there were abundant fibrinous deposits in the pulmonary valves, with wart-like growths, and ulceration of the adjacent part of the artery. There were only two valves in this pulmonary artery, and the author takes this occasion to mention the fact, that in the majority of cases in which only two valves have been found in the pulmonary artery or aorta, those valves have been diseased. He points it out as an example of a congenital defect in the shape of a part being accompanied by a more important congenital imperfection of its tissue; and alludes to the necessity of considering the latter imperfections as predisposing causes of disease in the imperfect part.

Mr. Hewitt mentioned several cases in which he had lately met with but two semilunar valves at the roots of the great arteries. In two cases there was disease—vegetation—of the valves; in a third the valves were healthy, and performed their office perfectly.

Mr. Paget observed, that in cases of valvular malformation there was greater liability to disease than usual; but he held that this was more owing to imperfection of tissue or texture, than to alteration of shape.

ELECTIVE POWERS OF
THE LACTEAL VESSELS.

WHILST some are of opinion that the lacteals absorb indifferently all the substances they encounter in the intestines; others, and particularly M. Magendie and his school, maintain that the veins alone take up articles that are poisonous to the economy. Some late experiments of Chatin confirm the latter view. Eight dogs having each had 0·50 gram. of arsenious acid mixed with milk introduced into their stomachs, the animals were by and by bled to death. The blood of the whole incinerated with nitrate of potash and put into Marsh's apparatus, a ring and stains of arsenic were obtained. The chyle, obtained by dividing the thoracic ducts of the eight animals, treated in the same way, did not afford a trace of the metal.

A similar experiment, merely substituting tartrate of potash and antimony for arsenic, was performed, with the same results; the antimony was detected abundantly in the blood, the chyle was without a trace of it.—*Comptes Rendus*, No. 10, 1844.

KERATOPLASTIC: TRANSPLANTATION OF
THE TRANSPARENT CORNEA.

M. FELDMANN, of Munich, has sent two memoirs on this subject, to the Royal Academy of Sciences of Paris. The experiments quoted in the second paper do not appear to have been very successful. The transplanted cornea could generally be got to adhere indeed, but then it shrunk to half its original size and became *perfectly opaque*, so that nothing was gained.—*Ibid.*

STATISTICS OF INSANITY

In the Duchy of Brunswick, by Dr. Mansfeld.

The interval embraced in this report extends from October 1841, to March 1842.

The whole number of patients is 488, of whom 254 are males, 234 females.

Of the 488, 17 are from 5 to 10 years of age; 61 from 10—20; 105 from 20—30; 99 from 30—40; 86 from 40—50; 74 from 50—60; 37 from 60—70; 8 from 70—80; and 1 between 80 and 90.

Of the whole number, 64 are married; 394 single; 27 widowed; and 3 separated.

The number of poor patients is 383; of those possessed of means, 105.

The form of the disease is furious mania in 25; delusion in 72; melancholy in 38; and amentia, or idiotcy, in 358.

Of those affected with mania, 11 have suffered for five years, 14 for a longer time; with dementia, 26 for five years, 46 for a longer time; with melancholy, 16 for five years, 22 for a longer time; and with amentia or idiotcy, 75 for five years, 278 for a longer time; and of the entire number, 216 have been idiots from birth.

Among the insane patients, 25 men and 29 women, in all 54, are subject to epilepsy.

The ratio of the insane to the entire population is as 1 : 539.—*Oppenheim's Zeitschrift*, Jan. 1844.

RATIO OF THE INSANE AND IDIOTIC TO THE POPULATION OF DIFFERENT COUNTRIES AND GREAT CITIES.

Countries.	Population.	Insane.	Ratio.
Spain . .	4,058,000	569	1:7180
Italy . . .	16,789,000	3441	1:4876
Belgium . .	3,816,000	3763	1:1014
Holland . .	2,302,000	2300	1:1001
France . .	32,000,000	32000	1:1000
United States	17,068,666	17434	1: 978
Malta & Gozzo	120,000	130	1: 932
Westphalia .	1,283,142	1535	1: 846
England . .	13,089,358	16222	1: 807
Ireland . .	7,784,536	10059	1: 774
Scotland . .	2,365,807	3652	1: 648
Norway . .	1,051,300	1909	1: 551
Brunswick .	262,948	488	1: 539

Cities.	Population.	Insane.	Ratio.
London . .	1,400,000	7000	1: 200
Paris . . .	890,000	4000	1: 222
Petersburgh .	377,000	120	1: 3142
Naples . .	370,000	479	1: 772
Cairo . . .	330,000	14	1:23,572
Madrid . .	204,000	60	1: 3400
Rome . .	154,000	320	1: 480
Milan . .	151,000	618	1: 244
Turin . .	114,000	331	1: 341
Florence . .	80,000	236	1: 339
Dresden . .	70,000	150	1: 466
Brunswick .	37,583	104	1: 361⅓

CONTRACTION OF THE FORAMEN LACERUM POSTERIUS, IN MANIACS AND SUICIDES.

The professor of anatomy in the University of Kiew, Dr. Kasloff, has for several years directed his attention to the state of the great vessels of the brain in cases of insanity, and finds himself forced upon the conclusion, that insanity in all its forms is most intimately connected with derangement of the circulation within the cranium. In the course of the year 1841, he had particular occasion to remark, that the foramen lacerum posterius was very commonly contracted in the skulls of those who had died insane, or who had committed suicide. The contraction generally occurred on one side only, rarely on both. In many cases he found the foramen, where it transmits the internal jugular vein, reduced to a mere narrow slit, which with difficulty admitted a common probe. The furrow for the lateral sinus, which led to this contracted foramen lacerum, was neither so broad nor so deep as in ordinary skulls, and the thimble-like cavity was almost level with the base of the cranium. The jugular vein that occupied it could not have had half, frequently not one-third, and occasionally not one-fourth of its usual diameter. The canalis caroticus of the corresponding side did not appear to have undergone any similar contraction of its diameter. Along with the contraction of the foramen lacerum posterius, however, a conspicuous enlargement of those foramina which transmit veins from the interior to the exterior of the skull was very regularly observed: the foramen mastoideum, and foramen parietale of the corresponding side, for example, were found of two Paris lines in diameter, and supernumerary foramina presented themselves in situations where none are commonly seen.

In every skull of a maniac or suicide in the anatomical collection at Kiew, Professor Kasloff observed the contraction of the foramen lacerum posterius in a greater or less degree upon one or both sides; in seventeen of the twenty-one skulls belonging to the above category, the peculiarity was remarkably displayed. On comparing the foramina lacera of the two sides, he found that where the one on the healthy side was four and a half Parisian lines in diameter, the contracted opening measured but two lines; where the healthy orifice measured four and a quarter lines, the contracted one still measured only two lines; where the former measured three and a half, and two and a half lines, the latter measured but one, and one and a half line.

In quoting these facts, Professor Kasloff still admits that he has examined other skulls of maniacs where he observed nothing of the same kind. It is impossible, however, not to regard the instances quoted as full of interest for the pathogeny of insanity. It

seems quite certain that the afflux through the carotid and basilar arteries continuing unimpeded, if any, even a very slight hindrance to the return of the blood by one of its principal channels be encountered, a stasis or accumulation within the vessels of the brain must of necessity ensue, and that this can be without influence upon that important organ, "the soul's frail dwelling place," is admitted on all hands to be impossible. Now, here is a permanent obstacle to the due return of the blood from the brain, which if it have not entirely escaped the notice of pathological anatomists, which it has not, appears never to have been viewed till now in its legitimate connection with and bearing upon functional derangement or organic disease of the brain.—*Zeitsch. f. d. gesammte Medicin, von F. W. Oppenheim*, January, 1844.

INDISCRIMINATING HUMANITY OF MEDICAL MEN.

Dr. Anthony Petit, reproached upon a certain occasion by the Queen, Marie Antoinette, for not appearing at Versailles as had been expected, replied—"Madam, if I came not to Versailles yesterday, it was because I was detained with a peasant's wife in her confinement, and in imminent danger of losing her life. Your Majesty errs, moreover, in supposing that I neglect the Dauphin for the poor; I have hitherto treated the child with greater care and attention than if he had been the son of one of your Majesty's grooms."—*M. Arago, Eloge de Bailly.*

LARREY.

Preference of the greatest sufferer, without regard to rank or station—such has ever been the sublime rule of the body medical, and such is still its evangile. To his personal friend Tanchou, wounded at the battle of Montmirail, Larrey said—"Your wound, my friend, is slight: we have *room* and *straw* in this ambulance for the severely wounded only; you will be lodged in yonder *stable*.—*M. Arago, in his Eloge de Bailly.*

BARON HUMBOLDT.

The house and garden which this distinguished man occupies at Berlin was some time back sold to a merchant, who forthwith gave notice to his tenant to quit. The banker, Joseph Mendelssohn, having heard of the circumstance, immediately set on foot a negociation for the repurchase of the property, which he effected at a very high price. He forthwith sent his respects to M. de Humboldt; assured him he should not be disturbed in his old habits and associations, and that the house and garden were at his disposal so long as he chose to occupy them. —We kiss thy hands with all our heart, kind Joseph Mendelssohn! May thy dollars multiply, since thou hast the soul to use them so!

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

List of Gentlemen admitted Members, April 12.—J. C. Barker.—B. Eddison.—R. Roe.—A. C. Morse.—A. P. Schuyler.—E. C. Hulme.—T. Oldacres.—H. Fenton.—J. H. Bennett.—R. Hassall.—T. Massey.

APOTHECARIES' HALL.

Gentlemen who have received Certificates, April 11.—H. A. Hore, Clifton.—G. Appleton, Torquay.—F. Cheesman, Sandhurst, Kent.—W. F. Foottit, Newark, Notts.—W. C. Northey, Tavistock, Devon.—W. F. Coles, Weymouth, Dorset.—T. Nicholas, Newport, Pembrokeshire.—W. Pollard, Plumpton St. Mary, Devon.—T. R. Evans, Lyng, Norfolk.—Hotchkin Haynes, Whittlesey, Cambridge.—S. T. Badger, Birmingham.—W. W. Wildey, Portsmouth.—S. H. Swayne, Bristol.—S. E. R. Jones, Gravesend, Kent.—F. H. Green, Great Chesterford, Essex.—G. Gwillim, Bishops Frome, Herefordshire.—T. W. Nicholls, Weymouth, Dorset.—G. H. Hopkins, Bridport, Dorset.

MORTALITY IN THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, April 6.

Dropsy, Cancer, Diseases of Uncertain Seat	90
Diseases of the Brain, Nerves, and Senses..	166
Diseases of Lungs and Organs of Respiration	257
Diseases of the Heart and Blood-vessels	39
Diseases of Stomach, Organs of Digestion,&c.	56
Diseases of the Kidneys, &c.....	11
Childbed	10
Paramenia.....	0
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Arthritis.....	0
Rheumatism	2
Diseases of Joints, &c.	5
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.....	0
Old Age or Natural Decay.....	54
Deaths by Violence, Privation, &c.....	25
Small Pox	21
Measles	22
Scarlatina	35
Hooping Cough	46
Croup	13
Thrush	3
Diarrhœa	2
Dysentery	2
Cholera	1
Influenza.....	4
Ague.....	0
Remittent Fever	0
Typhus	38
Erysipelas	8
Syphilis	0
Hydrophobia.....	0
Causes not specified	11
Deaths from all Causes	923

Erratum.—In our number for April 5, p. 19, col. 2, line 15 from bottom, for "resolves," read "realms."

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, APRIL 26, 1844.

SECOND CLINICAL

LECTURE ON TETANUS,

Delivered at St. Thomas's Hospital,

By Samuel Solly, F.R.S.

Senior Assistant Surgeon and Lecturer on Clinical Surgery at St. Thomas's Hospital.

(For the London Medical Gazette.)

Gentlemen,—When I last addressed you I little thought how soon I should have occasion again to call your attention to the pathology and treatment of tetanus. But two cases of the disease having been admitted within the last fortnight, I must not lose the opportunity of recurring to this interesting subject; to which, indeed, I am the more disposed, as the result, fortunate in our first case, has been disastrous in the two last.

George James Howes, æt. 28, undertaker. States that about eighteen months ago he struck his right leg with a spade and grazed the skin upon the lower part of the shin; he took no notice of the accident, and the sore has continued to get larger and larger till Monday, March 11th, when he was seized suddenly with a stiffness all over his body, so that he could not get out of bed: he had got very wet the day before, and had kept his wet clothes on. A medical man was sent for, who ordered him some medicine, and on the Wednesday his leg was examined, and found to be in a very bad state, and exceedingly offensive. He continued to get worse, and being sent to St. Thomas's Hospital he was there admitted under Mr. Green on the 19th of March.

The patient now complains of a pain in his loins, which extends up the spine, and about every half hour catches him suddenly, and draws him stiff and backwards. When the pain comes on, his jaws are also forcibly brought together; when free from pain he is not able to open his jaws more than a quarter of an inch; he also feels a stiffness about his chest, which, he says, prevents him from coughing or sneezing, and causes him to draw his breath short and sharp. His paroxysms come on if he is spoken to suddenly. His head feels very heavy; he cannot show his tongue; pulse 133, and sharp; bowels have not been opened since Sunday, when they were relieved pretty freely and frequently, with much flatus passed per anum. Ordered by Mr. Solly—

> Calomelanos, gr. v. statim, et rep. 4ta horâ nisi priusquam responderit; Vin. Rub. ʒvj. Eggs, arrow root. Emp. Lyttæ Spinæ Enema Tabaci, (ʒj. ad Oj. Aq.) pars dimidia quamprimum infundenda.

The sore on his leg is a large superficial ulcer extending from the inner side over the front of the leg.

> Cataplasm. Lini Ulceri.

4 p.m.—The enema had only now been administered; he has had one dose of the calomel, and his bowels have not acted. Pulse 120, pretty full.

6 p.m.—The injection seems to have had very little effect on his pulse; the other half is therefore to be thrown up: he swallows better than he did, but his breathing is still very difficult. The enema came away almost immediately.

Half-past 9 p.m.—Mr. Solly saw him again; bowels have acted, but not copiously. Pulse 130, jerking; he perspires profusely; paroxysms not so frequent, but the breathing is not relieved.

Half-past 10.—Injection repeated, immediately after which he had a motion, which seemed, however, to consist entirely of the enema. Ordered—

> Brandy, ʒvj.; Beef-tea, Morphiæ Acet. gr. j. si opus sit.

He takes his wine pretty well, but sometimes he has great difficulty in swallowing.

20th, 9 a.m.—He has dozed a good deal

during the night, and his bowels have been freely opened; the blister down the spine has risen well. His breathing is very much oppressed, and there is evidently very great obstruction in the bronchial tubes; when he makes the attempt he gurgles all out again; his countenance is livid; his spasms much less frequent; his pulse 120, but much weaker. Ordered—

Cal. gr. ij. 2dis horis; Træ. Cannabis Indicæ, ℥xx. 3tis horis sumend. If he cannot swallow, to double the quantity to be given as an enema. A blister to be raised on the chest by hot water as quickly as possible, and the cuticle being removed to dress it with Ung. Hydrarg.

1 P.M.—Much weaker; countenance much more livid; cannot swallow without great difficulty; pulse much more feeble. He continued from this time to sink gradually, and died at 3 h. 40 m. P.M.

In this case the tetanus could not very clearly be attributed to the wound, which had existed for eighteen months, and at the time of the patient's admission was simply an extensive indolent ulcer. I inquired particularly of his companions whether he had received any fresh injury on his leg, or whether the sore had lately assumed any different appearance, but I could not learn that it had. The immediate exciting cause appears to have been exposure to wet and cold, from getting his clothes soaked, and allowing them to dry on his back. Damp cold is well known to be one of the most frequent causes of idiopathic tetanus, under which head, I think, Howes' case must be ranked: we should hardly be justified in regarding it a case of traumatic tetanus.

The course of the disease was rapid for the idiopathic form. The patient was first seized on the 11th; on the 19th he was admitted into the hospital. He died on the following day. This case was complicated by chronic bronchitis, which certainly accelerated the fatal result.

We of course all regret, gentlemen, that the friends removed the body without granting us the opportunity of making a post-mortem examination.

With regard to the treatment, you will perceive that I pursued the same plan which had apparently answered in the last case I brought under your notice. The calomel and the tobacco enema were given with the view of emptying the bowels. I thought it right to give the Indian hemp another trial, at the same time not allowing the administration of it to interfere with what I considered the more essential part of the treatment. The bronchial affection went on so rapidly, that it was very evident, unless it could be arrested at once, it must very shortly prove fatal. In such cases, and under such circumstances, you will find the plan adopted, namely, that of raising a blister on the surface of the chest, by means of hot water, and then dressing the denuded surface with mercurial ointment, one of the most efficient local antiphlogistic measures you can have recourse to. But all our remedies were in vain.

Tetanus is certainly a very rare disease in these countries, but, singularly enough, not many days elapsed before we had another opportunity of testing the value both of general and local means in the local antiphlogistic treatment of this alarming affection; and here, as in the case just commented on, we had our hopes deceived, and our pride humbled, by their utter failure. But to you, gentlemen, as to us, unsuccessful cases are frequently even more instructive than successful ones, if we only analyse and examine them candidly.

Four days after the death of poor Howes, we admitted a lad of the name of James Godden, æt. 13. He is of spare habit, and good complexion. He states that on March 12th he fell from an elder tree, and lighted on a hedge, and that a piece of wood struck him and wounded him behind the left ear: two or three days after this his father noticed his features to be somewhat distorted, which he thought was owing to some bad tricks he had got, and chided him for it: the distortion, however, increased, and the boy was brought to the surgery at St. Thomas's Hospital on the 23d of March.

The features are now drawn over to the right side. On examining the part that had been injured, there was found an ill-conditioned sore on the left mastoid process, and a degree of puffiness about it; a free incision was made into the part, and on examining with the finger, two pieces of wood were found in the wound, and removed. A poultice applied over the part, and the boy was taken home.

March 24th.—He was brought to the hospital to-day; he looked very pale; has since this morning been unable to open the mouth more than half an inch; the sterno-mastoids are very rigid, and also the muscles at the back of the neck; the features are much more drawn to the right side; he can swallow very well; pulse natural; wound painful, but not inflamed. Ordered by Mr. Solly—

Cal. gr. iij. 6ta horis bis Enema Terebinth. amplum statim adhibend. The wound to be dilated towards the ear, and thirty leeches to be applied around it.

4 P.M.—Is much easier, and more cheerful; has had a copious motion.

8 P.M.—Mr. Solly saw him again: eyes more closed; sterno-mastoids much relaxed; but seems to have a good deal of spasm about the muscles of the back; pulse 88.

25th.—Has dozed a good deal during the night; his bowels have been freely opened two or three times; his features are rather more distorted; he has complained of twitching pains in his legs; mouth more firmly closed—he can scarcely get the tip of the finger into the mouth. Some rigidity of the posterior cervical muscles; pulse less powerful. Ordered—

Arrow Root, Wine, ℥iv.; Brandy, ℥ij.; Tinct. Cannabis Ind. ♏xx. 4tâ quâque horâ sumend. Emp. Lyttæ Spinæ.

4 P.M.—Mr. Solly saw him again: he has had some spasmodic twitches in the back to-day, which have given him a good deal of uneasiness. The Tinct. Cannabis Ind. seems to excite spasm in the throat: it was therefore ordered to be administered in double quantity per anum, and if this dose does not excite any spasm, to have ♏lx. 3tis horis. His spasms continue recurring every quarter of an hour; he seems to have no disposition to sleep; the bowels have not been open, and he has not passed water since the morning. A catheter was therefore introduced, and a large quantity of water was drawn off. He complains of great irritation from the blister, which was therefore removed: it had risen well, and was then dressed with a poultice.

Is to have the Enema Cannabis twice repeated.

20th, 10 A.M.—Has passed a restless night, the spasms recurring as frequently as ever: his jaw is locked firmly: the spasms draw his head back, and affect his back strongly; his abdominal muscles are tense and hard, whilst they last; his bowels have not been opened; pulse quick, frequent, 100. Ordered—

Enema Tabaci, ℥j. ad lbj. dimid stat. adhibend.

2 P.M. — Had the tobacco enema at about twenty minutes to eleven, which returned in four minutes, but produced great prostration, and a profuse perspiration: in about half an hour he had a slight convulsive fit: at half-past one, as his bowels were not relieved, he had a common enema, which he retained. Bowels not opened. Ordered—

Calomelanos, gr. iij. stat.

5 P.M.—Mr. Solly saw him: he has had frequent calls to stool, but no evacuation; very restless.

℞ Morphiæ, gr. ss. rep. 4tâ horâ somno absente.

Half-past 9 P.M.—Has been rather easier; paroxysms less frequent; seems inclined to sleep; has had no evacuation from the bowels.

27th.—Has had a more comfortable night, but about 5 A.M. was seized with another convulsive fit, which the night nurse says, "held him two or three minutes;" he opens his mouth much better this morning, but the paroxysms come on again in his back as severely as ever; his bowels have not been relieved; drew off about a pint of urine with a catheter; pulse 130, of much less power. Ordered—

Enema Terebinth., Pulv. Jalapæ Co. ℥j.

He perspires freely; can swallow easily, and takes his wine, brandy, &c. very well.

1 P.M.—The enema caused a small evacuation. The patient is getting gradually weaker; the spasms increase in strength; pulse 144, with less power.

Half-past 4 P.M.—He is much weaker; inclined to ramble now and then, but knows those about him; spasms are stronger and more frequent; bowels have not acted again.

To have Enema Commune.

Half-past 6 P.M.—He was seized with a violent paroxysm, more convulsive than tetanic, which held him for a considerable time: when he came out of it, he evidently knew those about him, but did not speak. Another paroxysm recurred at ten minutes past seven, immediately after which he died.

Post-mortem, 18 *hours after death.*

Weather warm for the time of year.

General appearance.—Body plump; venous system generally full. Body mottled. Abdomen greenish. Wound behind the ear presenting a foul unhealthy appearance.

I commenced the dissection by making an incision horizontally a little below the external ear, from before backwards, in the direction of the auricular branch of the facial nerve. This branch, when exposed, exhibited the bright white shining appearance of a perfectly healthy nerve. I traced it onwards towards the wound, in the immediate neighbourhood of which its natural appearance was lost in common with that of the other tissues, which were all of a reddish brown colour, from infiltration of blood, &c. &c. I could not detect the slightest appearance of inflammation in the nerve or its neurilema. The trunk of the facial nerve was also traced from its origin in the medulla oblongata through the stylo-mastoid canal, till it emerges on the face from behind the parotid gland: it exhibited no abnormal appearance.

The periosteum of the bone beneath the wound was ulcerated, and the bone bare to a very small extent. There was a small fissure in the bone, about the size of the extremity of the nail of the little finger, and the tenth of an inch in depth, such as might have been made by a blow from a sharp hard piece of wood.

Head.—The vessels of the dura mater were full of blood, and the whole membrane more vascular than usual, even in a lad of 14 years of age.

No inflammation of either arachnoid or pia mater was perceptible, but the vessels of the latter were very turgid.

The substance of the brain generally was very full of blood. The cortical substance was dark, but not inflamed. The motor tract healthy throughout. The medulla oblongata was perfectly healthy. Permission to examine the rest of the body was not obtained.

I cannot help regarding this case as highly instructive. During life, every circumstance attending the progress of the disease seemed to indicate the symptoms as dependent on an extension of inflammatory action from the seat of injury to the nervous centre. On the 12th of March, for instance, this boy receives a trifling, but ragged, wound on the side of the head, just behind the ear. His father states that he suffered scarcely anything at the time—that he did not even complain of pain. But two or three days afterwards his features are slightly distorted, and as this increases his father brings him to the hospital on the 23d; that is, eleven days after the injury was inflicted. A partial paralysis of the muscles supplied by the portio dura is now observed. The wound, which presented an unhealthy appearance, is very judiciously dilated by the dresser, Mr. Carr, who, by that means, discovered, and was enabled to remove, two small pieces of wood. Such are the early symptoms in this interesting case. Let us pass them in review, and first ask to what we are to attribute the paralysis of the face? The wound was not in a position to affect the trunk of the portio dura; it was behind the ear, not in front of it. You are doubtless well aware that division of the trunk of the portio dura is followed by paralysis of the muscles of one side of the face, and that a simple swelling of the parotid gland from inflammation consequent on cold will sometimes produce the symptoms by pressing injuriously on the nerve. The portio dura sends a branch, called the *auricular*, backwards behind the ear, in the direction of this wound; and to this branch did I look as the instrument of communication between the wound and the facial nerve. I concluded, I candidly confess, during the life of the boy, that this nerve had become inflamed in the wound, and that this inflammation extended along the course of the branch, had attacked the trunk of the nerve, producing paralysis of the whole of its filaments.

The tetanus which followed the paralysis I attribute to an extension of the inflammation along this same nerve to its origin in the medulla oblongata, and the excitement there, and in the centres of reflex function along the spinal cord, giving rise to that spasmodic action of the muscles which we call trismus and tetanus. Trismus, you well remember, was the first sign of the universal tetanic spasms which followed. The masticatory muscles are not supplied by the portio dura, but by the muscular portion of the 3rd division of the 5th, which has its origin from the motor tract of the medulla oblongata, very near to that of the portio dura. It was evident that there was a reflected irritation of the whole of the excito-motory system of nerves, and this I thought capable of satisfactory explanation upon the principles I have mentioned. How entirely, however, does the post-mortem examination subvert the opinion that this reflected irritation resulted from an extension of the local inflammation! There was no appearance whatever of inflammatory implication of the portio dura, no redness of the neurilema, or thickening of the nerve. Another theory of the course and causes of the symptoms crossed my mind during the progress of this case; it was this:—that the injury had given rise to inflammation of the bone, which had extended through the medium of the mastoid cells to the stylo-mastoid canal, and thus to the portio dura. But the absence of any severe pain or other affection of the ear gave no countenance to this idea; and the examination after death shewed that nothing of the kind existed. Again, I thought it not impossible that the injury of the bone had produced consecutive inflammation of the dura mater, and then of the medulla oblongata and spinal cord: but neither was this hypothesis borne out by the necropsy.

No, gentlemen; the cause of the whole of these disastrous symptoms is not revealed to us by the post-mortem examination; the evidence which that affords is purely negative; it shows us that the symptoms were not connected with inflammatory action either of nervous cords or nervous centres; it shews us that tetanus in its severest and most fatal form can exist independently of inflammation of the nerves or nervous centres. And though I still believe that the conductor of the irritation from the wounds to the nervous centres was the facial nerve, it is clear to me that inflammatory action was not the vehicle or cause of its conduction in this case, and that therefore it is not an essential element in the pathology of tetanus.

I was much vexed that I could not be permitted to examine the spinal cord throughout its whole length; though the absence of inflammation at the origin of those nerves which were first affected renders it very improbable that there was any inflammation of the rest of the medulla spinalis.

It would also have been satisfactory if we could have examined the condition of the heart and lungs, for there is every reason to believe that the immediate cause of death in such cases is suffocation from spasm of the glottis and of the muscles of respiration generally.

The treatment in this case was guided by the general features of the disease rather than by any feeling that we possess a medicine which exerts a specific influence over tetanus.

Special attention was paid to the immediate relief of the bowels, which the turpentine enema effected in the first instance. The character of the wound, and the pain in its neighbourhood, seemed to indicate local depletion, and the power of his pulse at that time justified its adoption. The Indian hemp certainly did not allay the spasms, but on the contrary, seemed to aggravate them. The morphia evidently relieved him. You will recollect that the report states he was easier after it, and that he had a better night. With regard to nourishment and stimulants, the order to the sister was to give him as much as he would take in small quantities frequently repeated: but he took very little.

ON THE

DECREASE OF DISEASE THROUGH THE PROGRESS OF CIVILIZATION.

By C. F. H. Marx, M.D.

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[Continued from p. 45.]

(For the Medical Gazette.)

Nor is it only as seeking to remedy corporeal and mental evils by every means at command that the present period is distinguished; measures are now systematically pursued in many lands which satisfy us that civilization will not be to blame if the germs of disease are suffered to go on engendering themselves anew and undisturbed in future years.

It were easy to point out the particular instances in which vast strides have been gradually made in this direction, but to do this would lead us too far from our subject, and would make it imperative on us to enter into a special analysis of the state of the human family, and its efforts at improvement and independence. It will be enough if I adduce a few of the more remarkable and influential of the many means brought into play by advancing civilization to diminish disease, in order to carry conviction to the reader's mind that the indubitable decrease of disease cannot be ascribed to the absence of accidental epidemical influences, or to any thing like periodical cycles, but that it must be attributed to the efforts of the human mind, crowned with a large measure of success, as uninterruupted efforts ever are, to circumscribe the causes of disease, to remove these entirely, and to dispute every inch of the ground with causes inimical to length of days.

When we look at the earliest circumstances in the life of the individual, we find everything vouching for the fact that each new century, each step taken in the path pointed out by enlightened religion and ennobled humanity, is distinguished by an increasing attention to the physical wants of infancy, and a diminution of its mortality. The solicitude even begins before children see the light, and is active the moment they do so: the relations between nature and art, in the important process of parturition, are much better understood now than formerly; well-timed interference is constantly saving the threatened life both of child and mother. And then we are better informed as to the necessity of proper nursing: children are much less frequently sent to perish upon spoon meat than they used to be; and even in the cases where a nurse cannot be commanded, the system of feeding pursued is better adapted to the tender organs of the infant, and less destructive, than it was in former times.

Much is also now done to guard against the temptation to commit child-murder; and fewer infants fall victims to the ignorance of mothers. Deserted or orphan children are commonly sent into the country during the first years of life, instead of being congregated in Foundling Hospitals situated in the midst of great cities, in which the mortality was always very high.

In the education of children we have not merely regard now, as formerly, to the development of the mental qualities; we pay some attention to the bodily powers; and in the event of any predisposition to disease, we seek by fair and reasonable means to repress its growth, or to eradicate its seeds.

The dress of the community, whatever room for improvement still remains among the female portion of it especially, is more convenient now than it was once; and all those articles that interfered with the free play of the organs are falling every day into greater and greater discredit. Infants are no longer swathed or swaddled as they

used to be: since corsets have been made more roomy and pliant, much suffering has been spared to our women: when such villainous contrivances to distort the human form divine shall have been discarded entirely, much greater benefit will ensue. The feet of the wealthier classes of our females are no longer crippled by the high-heeled shoes which our grandmothers wore, which made necessary exercise painful or impossible, at the same time that by causing the lower vertebræ of the loins to encroach upon the pelvis, they rendered labour difficult, and sometimes even fatal*.

We no longer grease and powder the hair, as did our fathers, by which we gain in cleanliness, and therefore in strength; and whilst we are aware of the necessity of watching the first and often painful process of teething, we the indispensable instruments of manducation, by which we are enabled to have art to supply us in later life with maintain the stomach unoppressed, and the body effectively nourished, to the very end of our days, and so undoubtedly to lengthen them.

The persuasion now current as to the necessity of using sedulously the various dietetic and hygienic means of strengthening the system, which experience has sanctioned, in youth, in manhood, in age, must also have its influence. The means to this, and which in former times were within the reach of the wealthier classes of society alone, are now becoming common.

The important influence which the functions of the skin exert upon the very highest operations of the organism, is now acknowledged, and the increase of habits of cleanliness, as mere matter of propriety, has undoubtedly contributed much to the preservation of health: the use of soap, now universal, was all but unknown between two and three centuries ago†. Habits of cleanliness are regarded, not without good reason, as among the most precious gifts of civilization.

With the extension of better views on the circumstances and conditions that influence the general weal, the anxiety to make them known, and the eagerness to carry them into practice, have gone hand in hand. These important words now find universal acceptation: "Whatever preserves health, serves society; for sickness, besides its vexation, occasions a loss of property, and a loss of time, and often it involves both the property and the time of others*." It is now almost everywhere held matter of moment, by wide streets, sufficient sewerage, and the discontinuance of sepulture in the midst of the dwellings of man, and even within the buildings dedicated to the service of the Creator, to secure due ventilation, and to keep the air sweet and wholesome. As the peace of nations becomes assured, let us trust that the high walls of fortified towns will be levelled, the pure air of heaven admitted to their inmost recesses, and the foul and marshy ditches which surrounded them, filled up and planted, become the means of delightful recreation and of health to their inhabitants†.

The facilities for procuring wholesome food are now so great, that diseases which in former times spread over extensive tracts of country, from sheer want of aliment fitted for the use of man, are now unknown. Through the progress of agriculture, almost every spot of earth is rendered useful, and the produce of our lands is vastly increased and is still increasing. The cultivation of the potatoe, of fresh vegetables, and of various kinds of useful fruit, the apple, the plum, the chesnut, and the orange in the different countries of Europe, materially repress the price of wheat, and have an unexceptionable influence on the health of communities‡.

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* Camper has treated of this, among other useful matters, in his Essay on the best Fashion of Shoes,—a work that should be better known than it is.—ENG. ED

† Soap was first made in London in 1554. Up to this time it was one of the articles of import.

* Ensor on the Population of Nations. Lond. 1818.

† What excuse shall we find for the foolish inhabitants of Paris, who in the middle of the 19th century have immured themselves, and pointed a battery from every height in the vicinity of their city, at their own hearts? Verily, science and cleverness are not good sense and foresight, or our friends of the banks of the Seine would never have been guilty of the egregious act of childish folly which they have just committed. But children, in the pains they take to build up houses of cards, have generally a looking to the enjoyment they are to have in knocking them down again, and so we must needs presume have the Parisians.—ENG. ED.

‡ Two centuries ago a salad was not to be bought in the markets of London for money; a

Adulterations of articles of food are now much rarer than they were*. The use of lead in glazing articles of pottery that are to serve as kitchen utensils, the art of tinning copper vessels, and even of coating them with a layer of insoluble enamel, are all improvements that have their influence upon the average life of man. Accidental poisonings are every year becoming more and more uncommon: within doors cast iron and tin plate have almost superseded copper, and without, poisonous plants give place to those that are useful; or the characters, and names, and deadly qualities, of such as still exist, being known and taught in every village school, accidents from them are very rare. The sale of poisonous articles, whether of mineral or vegetable origin is also more restricted than it was; it is also in better hands, viz. those of the chemist and druggist, and therefore less liable to abuse. Does an accident by poisoning now occur? Immediately experiments are made and antidotes are discovered. The great perfection of chemical analysis, too, has rendered the detection of almost every variety of poison that can be introduced into the body of man, a matter of such easy certainty, that an attempt upon a fellow creature's life by poison is almost necessarily discovered, and the repetition of such practices of course most powerfully discouraged.

The care that is taken of the poor and helpless in almost every country of Europe, is another important feature in our modern civilization; and the benevolent solicitude of private associations in most of our larger towns to provide firing for the poor during the severer months of the year,* as also to furnish convalescents from serious illness with proper food, and parturient women and new-born infants with suitable articles of clothing, all tends directly to the maintenance of health, and the prolongation of life, among our poorest classes.

The experiment of colonizing thinly peopled or absolutely uninhabited tracts of country within the boundaries of Europe, seems to promise permanent improvement and advantage to the human family, partly by ridding it here and there of a burthensome superfluity of population, but more by placing thousands of poor at once in a position to achieve comfortable independence for themselves, and by turning waste and unproductive solitudes, sources of pernicious effluvia, into fertile and healthy fields. M. Demidoff, in his Travels in Southern Russia, expresses himself in these words on this subject: "I am persuaded that pauperism, mendicity, and deserted infancy, may people these solitudes with vast ad-

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cabbage stock and a carrot were unknown; apples were scarce, and never used save in the crude and unnutritious state. Sir Walter Raleigh and Admiral Drake might have brought half a dozen oranges for the Queen's table, but the community had never seen the golden fruit of the Hesperides. At the present time we buy this fruit of the tropics at the rate of two or three for a penny in the streets of London! and through the blessing of sugar we are never at a loss for a meal for our children with an apple. Sugar is in fact one of the greatest conquests of man's industry, and the barbarism of making it a source of revenue, and regarding it as a luxury, ought to be abandoned; it is one of the prime neccessaries of life, and ought to be as free as air. It is little more than a century since the great bulk of the community lived upon salt provisions through the winter. Agriculture had made so little progres, sthat there were no green crops, no such staple as the turnip, not merely to keep cattle alive, but to fatten them, and so little hay was made, that it was always an object to save it for the use of the stock that must be maintained till the spring. The cattle which now supply us with fresh animal food through the whole of the winter, in our grandfathers' time would all have been slaughtered, and salted down at Michaelmas; there was no more fresh meat until God's providence brought round the spring. In Sydenham and Morton's times, and even considerably later than these, among the grand causes for which the assistance of medical men was sought, were the scurvy, and intermittent fever. The faculty would starve now did they depend on either one or other of these diseases. The *death* of the members of the community was then the source of professional income; now it is their *birth*. Juno Lucina is the true patron goddess of the medical profession in these days, not Apollo in his ire, and twanging his silver bow! ENG. ED.

* The high price of sugar, the consequence of high and discriminating or protecting duties, has unfortunately had the effect of establishing manufactories of sugar by a chemical process in the neighbourhood of London. There is one at Bow, where many tons per week are regularly produced, the whole of which *pays duty to government--is a source of revenue to the state*—and then goes to adulterate the sugar with which the poor man attempts to sweeten his tea, or to make his children's meal palatable, and additionally nutritious!—ENG. ED.

* Vide Moser (in the Prussian Medical Journal, No. 21, 1835,) and Quetelet (Sur l'Homme, &c.) who both show that in these countries the greatest mortality corresponds with the lowest temperatures, the least mortaliity with the highest temperatures. Taxes upon fuel must be held as equally barbarous and impolitic. The Corporation of the City of London raise a revenue of many thousand pounds per annum from the sea-borne coal that is consumed in the metropolis. No improvement that can be effected with the money so raised can compensate for the injury that is done by a tax so cruel, and that presses so unequally upon the rich and poor.—ENG. ED.

vantage to society, to public morals, and to themselves*."

The improved construction and police of prisons is another important point. These are now not merely places of detention and of punishment, where there was great danger incurred of contracting deadly diseases†, but schools of improvement: instead of proving, as formerly, certain means of confirming vice in its career, and corrupting innocence when suspicion led to temporary loss of liberty, there are now at all events the means proffered whereby the inmates may regain their moral with their personal liberty, and every pains taken, that innocence may quit them uncontaminated. Much difference of opinion still prevails in regard to the advantages or disadvantages of the several plans of treating prisoners that have been proposed. But the time cannot be far off when the friends of humanity will be enabled to arrive at unanimity of opinion on the subject. If experience prove that the American or solitary system is a frequent cause of insanity, it must of course be very much restricted or entirely superseded.‡

The milder punishments now awarded have also their influence in preserving the health of those who have made themselves obnoxious to the law. Mutilations, and other kinds of what may be called organic inflictions, have happily become matter of tradition in all policied countries.§

In the military service harshness and severity are yielding every day—have already yielded—to humane and reasonable treatment. Attention to the cleanliness of his quarters, to the sufficiency of his clothing, and to the abundance and excellence of his food, added to humane and civil treatment, go so far to secure the common soldier against disease, that on home service he is probably the healthiest man in the community. It has been well observed by a very competent authority,* that "a good commanding officer has generally a healthy regiment." Thousands are still living, who have to thank the military hospital, and the skill and devotion of its medical officers in the English, French, and German armies, for health recovered, for life and limb preserved.

It is the same in the naval service. The sailor is now treated as a man and a christian; crowding in quarters is avoided; his provisions are of the best—in long voyages he is provided with preserved fresh meats and lemon juice; instead of being taught to acquire a taste for spirituous liquors by being forced to drink his allowance of grog, he is rather encouraged to abstinence, and all the evils that flowed from insubordination, the constant consequence of intemperance, are avoided. The ill effects of wetting between decks are now well known and never encountered; dry rubbing with holly stones is substituted for washing, and stoves are conveniently placed to secure ventilation; the ballast in all well-appointed ships is now some article that will not corrupt the air by its moisture and decomposition—it is pig iron, or, better still, large iron tanks filled with water, which afford the company a supply of that indispensable element, pure as when it came from the well, and almost *ad libitum*, through the whole course of even the longest voyage. The health of the navy has made truly wonderful progress within the last half century.†

* M. Demidoff also thinks favourably of the "Colonial system for the cure of social evils" (pour la Guerison des Maladies Sociales,) which has been essayed in Holland. [There can be no doubt of the infinite advantages of the "allotment system" which is happily on the spread in England; the good that would certainly result from the general adoption of this system seems incalculable. Vide Mrs. Loudon's very able book on Political Economy, 8vo. Lond.—Eng. Ed.]

† In former times the prisoners in Newgate and other large gaols, used to be decimated at intervals by typhoid fever of a bad kind, which was elaborately described under the name of jail fever, or jail distemper. Epidemic fever is now unknown in any of the London prisons. In the House of Correction, Coldbath Fields, where there are usually from 1,300 to 1,400 prisoners, the infirmary has rarely more than three or four tenants at one time; and when I visited it in company with the author of this essay, there was but a single patient—a poor young woman far gone in consumption, which she was suffering under when she came into the place.—Eng. Ed.

‡ In Bernoulli (op. cit. p. 82) it is stated, on the authority of Coindet, that of 329, 15, or 1 in 22, had become insane.

§ All our experience seems to satisfy us nevertheless, that the grand object with society should be to take away inducements to commit crime: once a "criminal always a criminal" is an axiom with every one who has had to do with this class, whether in America or England, and it is probably the same in other countries, The "reform of the criminal," they say, "is a dream." If this be so, our prisons might have Dante's lines over the gates of hell inscribed upon their doors;

"Lasciate ogni speranza
Voi che intrate qui."

"Leave hope behind, all ye who enter here!"
Eng. Ed.

* Sir James M'Grigor, Medical Sketches, Lond. 1804, p. 95.

† Vide Blane: Comparative Health of the British Navy from the year 1790 to 1814, in his Select Disserts.; and the Report on the Health, &c. of the Navy, by Dr. Wilson.

The special scientific study of the diseases of artizans and labourers, in laying open the often hidden sources of their sufferings, has, at the same time, exposed the ways and means of removing them, or rendering them nugatory*. The physician and philosopher working hand in hand here, good fruits have certainly not been wanting. The draught furnace, as a means of ventilating mines, and the safety-lamp of Davy, have already saved lives innumerable. Undertakings which, in former times, had all to be accomplished by the labour of men's bodies, and often proved highly detrimental to health, are now, for the most part, performed by means of machinery†.

If it shall be found that the mortality is actually greater in manufacturing districts‡ than in those where the population is chiefly employed in agriculture, it will, at the same time, be discovered that this is mainly due to inequality in the tide of occupation; that not unfrequently the stream of full employment and abundance is succeeded by the ebb of idleness and want. The advantages of savings banks, however, and of benefit societies, which are ever better understood and more appreciated, promise gradually to lessen the consequences of this inequality. It is unquestionable that in the majority of the mills and manufactories themselves, with their roomy, well ventilated, and comfortably warmed apartments, the labourer is infinitely better off than he is in his dwelling-place, even though it be a cottage in the country*. To many of these magnificent establishments, too, medical officers are attached, so that disease is here nipped in the bud, and contagion is unknown.

The care that is taken of the sick poor, in public hospitals, whether maintained at the cost of the community, and out of the funds of the state, as on the continent of Europe, or by voluntary contributions, and at the expense of individuals, as in England, also contributes essentially to repress mortality. In former times these establishments were far from being the blessings which they are at present: in the Hôtel-Dieu of Paris in particular the mortality used to be frightful: but since every patient has been placed in a separate bed, and since cleanliness and ventilation have been held paramount elements in the police of hospitals, the mortality has fallen to a minimum, and, in the best regulated establishments, probably does not exceed its amount among serious cases in the houses of the opulent. Much, too, has unquestionably been gained by classifying patients, and distributing them to different wards, or even to different hospitals, both in a remedial and scientific point of view. It would be well, in every great town, to have a separate hospital for so infectious and deadly a disease as small-pox; for the important class of infantile diseases, for those affected with incurable diseases, for epileptics, for cutaneous diseases, &c.; and also distinct establishments for convalescents both in reference to bodily and mental infirmities.

The rescue and recovery of the apparently dead from drowning, exposure to irrespirable gases, &c., has

* See the work of Rammazzini on the Diseases of Artificers, translated into French by Patissier, and into German, with additions, by Schlegel; also, Adelman, on the same subject, Würzburg, 1803; Fuchs on the Influence of Trades, &c. on Health, in Hecker's New Annals; Turner Thackrah on the Effects of the principal Arts, Trades, and Professions, on Health and Longevity, 8vo. London, 1831; and Dr. Calvert Holland on Diseases of the Lungs from Mechanical Causes, 8vo. London, 1844.

† Ruptures are relatively much more frequent among the labouring than among the other classes of society. In Würtemberg it has been estimated that there are 30,000 persons affected with rupture. Riecke, p. 47.

‡ Quetelet, op. cit. p. 213. There can be no doubt of the fact being so. The mean length of life in Liverpool is 25 years; in some of the counties of England it is even as high as 55 years. But the defective police of the city from first to last, and the circumstances of the population, may be charged with the whole difference. In the city, hundreds, thousands, are suffered to herd in cellars below the level of the ground, and they are the most wretched of God's creatures: driven out in rags from their own country—Ireland—by starvation, they come to meet disease and death in the crowded avenues of Liverpool and Glasgow, Bristol and Manchester. But civilization can be rightly charged with nothing of all this misery; it is the barbarism of class legislation, against which civilization has been struggling in vain for centuries, that brings it all about. Thomas Carlyle, the philosopher, the poet, the friend of man, says, well and truly, that England has always treated Ireland like a stepmother, and that Ireland has requited her by sending her starvelings forth to degrade the hardy yeomen of the English soil to the level of the mud-housed, rag-clad, potato-fed outcast of the misgoverned country.—Eng. Ed.

* In the work of Legoyt, La France Statistique, d'après les documens officiels les plus recents, Paris, 1843, it is shown that in the seventeen departments of France distinguished for their industry and manufactures, the sanatory state of the population is much more favourable, than in seventeen others where industry is least.

not been left to the humanity and particular skill of individuals; the community has held the matter worthy of its attention; and, by their establishments under the name of "Humane Societies," their prizes, their honourable distinction of those who have saved a fellow-creature's life, as well as by spreading abroad in their "Instructions" better knowledge of the means adapted to the recovery of drowned or asphyxiated persons, many have been rescued who, without such help, would have been snatched away from existence before their time.

Contagious diseases have of late years lost much of their virulence, first, from the watchfulness with which measures of precaution and prevention are enforced, and then from the care bestowed in exposing and airing, in washing, in heating, and, if need be, in burning suspicious bales and articles in which infection might be supposed to lurk. May it not be that these wise measures have in fact rendered zymotic influences inoperative now, that in former ages proved pestilential? That the means taken to guard against contagion have, in fact, destroyed it? That diseases such as plague and yellow fever, contagious in past times, are contagious no longer? The discovery of chlorine and its preparations has placed a powerful weapon in our hands against corruption and contamination.

The careful and enlightened study of which the veterinary art is now made the subject, has thrown light on several serious and even mortal diseases which are readily transmitted from animals to man. Not to speak of hydrophobia, which has been known from remote antiquity to be an incurable disease*, we now know that the anthracion, or malignant pustule of the ox, and the affection closely allied to it, the tongue-canker, and, above all, glanders, are extremely apt to be inoculated upon the human subject, and to prove fatal when received. Knowledge of this kind of course leads to caution in the handling of diseased animals, and prevents the spread of their contagions. The tax upon dogs has also had a beneficial influence; the numbers kept are diminished, houseless and unowned animals are got rid of entirely; so that in some countries of Europe it often happens that no case of true hydrophobia occurs for several years*.

The attention that has, of late years, been paid to medical topography, has likewise contributed much, and will undoubtedly contribute still more, to the eradication of the causes of endemical disease. The influence of particular localities, soils, and environs, upon the health of the community, and the measures calculated to repress or to annul whatever is prejudicial, have all been made the subject of careful study, and are now familiar to the medical men, the civil engineers, and even the statesmen, of most European countries. Wherever enlightened man spreads himself over the surface with his peaceful arts, his freer views and institutions, there the swamp and the tangled forest, and the damp and pestilence that brood over them in their natural state, disappear. Even as certainly does this ensue as its opposite: wherever the commercial and political weight of a community declines, where industry flags and population falls off, there do marsh and miasm, and their concomitants, disease and death, extend.—Neglect brings punishment in her train as surely as industry, and its sequence, improvement, lead affluence and long life in either hand†.

No inconsiderable portion of the greater solicitude in regard to the public health displayed by government, as also of the better private information now extant on the means of guarding against disease, may be fairly ascribed to the appearance, in the countries of Europe, and in England especially, of so many excellent popular works upon the subject of hygiene; works composed by men of the highest attainments and most philosophic minds, conceived in the best spirit of enlightened philanthropy, and within reach of all in point of price‡.

* Vide Levin on the Diseases of Domestic Animals which are transmissible to Man: Berlin, 1839.

* Cless, Topography of Stuttgardt, inforr s us that in the course of eighteen years but one case of hydrophobia had occurred in that city.

† See Macculloch's Malaria. London, 1827.

‡ Let me name with gratitude the writings of Dr. Andrew Combe (The Principles of Physiology applied to the Preservation of Health); of Dr. Southwood Smith (The Philosophy of Health); and of Dr. Thomas Hodgkin (Lectures on the Promotion and Preservation of Health, delivered before the Mechanics' Institution). Dr. Neil Arnott, too, has contributed largely, by his "Elements of Physics," and his tract "On "Warming and Ventilating Houses," to make known the principles that lie at the root of

The incessant war waged against erroneous views and prejudices affecting the public health, in lectures, newspapers, magazines, and special works, as it is still victorious, so does it extend the empire of improvement. The more the sanitory state of the community is threatened by misuses having their roots in ignorance and particular interests, the more loudly and incessantly must the better persuasion make itself heard. So long as the insanity prevailed, that sepulture in churches and chapels under the immediate protection of saints and martyrs, assured a state of blissful futurity to the souls of the deceased, the faithful, at their prayers, must needs inhale the vapours of the grave. A long series of years passed by before better knowledge sent the vital breath of heaven to blow with freedom through the damp and dingy city; superstition has long been on the wane, and sepulture of the dead among the living ought now to cease*.

It has but lately been discovered that the cruel practice of Suttee, in India, in which the widow burned herself upon the funeral pile of her dead husband, proceeded from no peculiar feelings of ungratified affection, from no strong sense of conjugal duty; so that government have felt authorized, on the strong grounds of reason and humanity, to interfere and discourage, and even to interdict, the sacrifice.

The times are not so very remote when diseases in general, or in certain particular forms, were looked on as punishments sent by God, to which we were bound to submit without resistance†. These have long gone by; or if, in some neighbouring countries, any such system of fatality still finds accredence, it will very certainly disappear before the light of reason and humanity. It is never to be forgotten, however, that the first best gift which medical science has given to man—vaccination—was resisted and rejected, at first, on grounds both of religion and humanity: shall we venture to interfere with God's providence, it was said, or to engraft the humour of a brute upon the body of man*? We now laugh at such insanity.

Many notions and practices in connection with disease, which were prejudicial, are disappearing gradually but certainly. The custom of keeping patients labouring under the acute exanthemata, — scarlet fever, measles, small-pox,—in a close hot atmosphere, was extremely injurious, and cost many a life†. The dread of cool fresh air is now happily overcome: the nursery and sick room are kept well ventilated; children are carried freely into the open air; and, the earlier months of life left behind, we do not fear to sponge and wash over our most delicate young with cold water, as a powerful means of giving tone to the system and strength to the limbs.

As the spread of true improvement has power to diminish disease, it may be fairly said that the increase of morality must have the same effect. Whenever society shall combine, and rigidly put down all gaming-houses, a fruitful source of disease will be dried up.

Every philanthropic society contributes not merely to the temporary and moral welfare of the community, but to its health and longevity. Who shall deny the blessed effects of our temperance associations, even where they are but partially in operation, and their influence may be supposed the least? To reclaim a drunkard is to effect the moral as well as physical salvation of a responsible being. What the educated man accomplishes over his inclinations upon principle and resolve, the ruder

almost all improvement; and Dr. Reid, in his elaborate work "On Ventilation," just published, has put the crown upon the subject.—ENG. ED.

* Strange to say, it is in protestant England that this abomination has still its strong hold. Roman catholic France and Germany discontinued it long ago; and in Scotland burial in churches has been unknown since Knox's time. Mr. Walker, by his "Gatherings from Graveyards," though he has mixed the horrible and awful perhaps in too large proportion with his statements, has nevertheless done good service to the cause of true civilization. The parliamentary report on Interment in Towns, and Mr. Chadwick's Commentary on it, complete our information on the debasing, demoralizing, and deleterious effects of the practice; and leave neither the legislature nor any interest in the community a shadow of pretext for suffering it to go on any longer.—ENG. ED.

† See my work, "Origines Contagii," p. 121.

* Moseley, in his treatise on the Lues Cobilla, maintained that the practice of vaccination would by and by people the country with a race of minotaurs! (Vide Baron's Life of Jenner, vol. i., page 353.)

† These are all occasionally very dangerous diseases. Small-pox has abated nothing of its malignity, and scarlatina is, from time to time, a deadly and, as it seems, altogether unmanageable disease. Measles is more rarely so destructive; but it often undermines a previously good constitution, and so cuts life short.—ENG. ED.

less cultivated nature must become accustomed to by example and a pledge. Sobriety is the first, most indispensable basis of all improvement, the founder and preserver of human happiness. If these times succeed in rearing her an universal temple, they will have accomplished the most noble of destinies. The mortality among males in towns and in countries where intemperance prevails, is greater than that among females, mainly because their lives are more dissipated and irregular.

Life-insurance societies, and those institutions, such as savings-banks, where earnings not immediately wanted can be safely stored against the hour of need, all contribute to bodily well-being, as they tend to put the mind at ease, and secure it against the tear and wear of anxiety, the destructive consequences of change.

If it do actually appear that the condition of the lowest classes of society improves, undoubtedly the circumstance will have a material influence on the general sanatory state*. Many of the children of the poor, that look strong and lusty at their birth, dwindle away by degrees, and finally die; so that there can be no question as to the truth of the proposition, "in proportion as pauperism is rare, are infants reared†."

The larger and more commodious houses of modern times, in addition to the better clothing and food of the community, prevent the spread, as well as the production, of diseases. How many of the worst forms of sickness have their homes in the dens of privation and misfortune! Blindness is most frequent amongst the poorest classes, not merely relatively but absolutely, and is owing, in the great majority of cases, to neglect and ignorance*. The chronic diseases of the eye, with which we see so many of the poor afflicted all their lives, are almost unknown among the middle and upper classes of the community.

A life passed in the open air, and hardening of the body by exposure, conduce, we will allow, to give it strength and durability; but when to these excessive toil is superadded, they immediately lose much of their beneficial influence. It is therefore indubitable that the simple natural state, as it has been called, is less favourable to longevity than the civilized condition. It has been ascertained, for instance, that women in the country have not such good lives during the years in which they are liable to become mothers, as those who live in towns. Want of proper assistance may occasionally be the cause of the difference, but there can be little doubt of its being mainly due to the bodily labour which country-women are so commonly required to undergo at a time when they require rest, and should be exempt from toil. The mortality in the country is certainly less than it is in great cities; certain diseases are also rarer there than in towns. The reason of this, however, is perhaps less to be sought for in the circumstance of crowding together, and the generation of gases and vapours which contaminate the atmosphere, than in the fact that occasions to commit excesses, to yield to courses that prejudice health, and shorten life, are here more numerous†. But the better these are known the more generally their pernicious influences are recognised, the more emphatically do the educated, and benevolent, and well-disposed, direct their

* The state of the poor in Great Britain has been variously estimated, according to the point of view from which it has been regarded. The well-informed and unprejudiced observer, however, sees it bettered on the whole, and holds the conclusion of Buret (De la misère des classes laborieuses en Angleterre et en France, Paris, 1841) when he says, "France is poor, England is miserable," as impressed with the seal of twofold exaggeration. [The state of the English very poor has commonly enough impressed the foreigner very disadvantageously; an intelligent and kind-hearted German gentleman, Mr. König, who knew England well, used always to maintain that it was "the heaven of the rich, but the hell of the poor." Other countries may be, doubtless are, the same; to me there has always appeared too much of truth in the observations of M. König.—Eng. Ed.]

† Lichtenstein, On the Causes of the Great Mortality of Children in the First Years of Life. St. Petersburg, 1837.

* Bernoulli, Populat. p. 86.

† As Farr conjectured in the First Annual Report of the Registrar-general of Births, Deaths, and Marriages in England, Lond. 1839. In the excellent review of this work in Forbes's British and Foreign Medical Review, Vol. IX. 1840, it is observed that from the above statement we might conclude that civilization, by the side of so much whose tendency is to prolong life, brings one of vast power to curtail and destroy; that among man's elements of longevity civilization fosters one mighty element of destruction; but immediately afterwards it is shown that a closer view of the circumstances that influence the mortality of large towns leads to the conclusion that true civilization, far from having any part in them, rather strives against them, and successfully resists their tendencies.

minds to abate them in their ill effects, or to remove them entirely.

The mortality among the upper and middle classes is not only smaller than among the very poor,* because there comfort or superfluity, here want is at home†, but also because amongst the rich, cleanliness is more attended to, and moderation is more in vogue. It is well worthy of remark, that in England, where unquestionably the greatest amount of material comfort prevails among the community, the greatest mean duration of human life, namely, 38 years, also occurs‡: in Russia, on the contrary, it is no more than 21 years§. The man in comfortable or affluent circumstances does not only live better; he lives longer.

But the means of preserving health, and of recovering it when lost, are made every day more accessible to him who is less favoured of fortune, whilst commerce has made it more easy to procure medical substances of every description. It is no trifling recommendation of modern medicine in its progressive improvement, to say, that it has discovered at once more powerful and less costly medicines than were in former use. Before the discovery of bark, how long must the sufferer from ague or intermittent fever have been laid up useless, incapable of all exertion, how often was he the victim of the consequences of this once universal disease! but how certainly is he now restored to himself and society by the discovery of the vegetable alkaloids! A labouring or handicrafts man who in former times was thrown out of work by the palsy of the hands and arms so familiarly known to follow poisoning with lead, was extremely apt to become for life a burthen upon, instead of a help and a stay to his family: with the assistance of strychnine and the sulphur bath the physician now sends him for the major part speedily back to his calling, his hands and arms restored to their former vigour and usefulness. Nor must the better education, the higher skill, of the present race of medical practitioners, be overlooked; it is impossible that this can be without effect on the mortality through accidental disease. To say nothing of the large share which the medical practitioner has at all times had in initiating sanatory measures, in enforcing and in spreading abroad information on hygiène, he now very constantly discovers, and nips in the bud, diseases that once allowed to get head are almost certainly fatal. Save in England, and here and there in Germany quacks and pretenders to medical science, without preliminary education, are no longer suffered. In France society has outlived the quacksalver, if it has not quite outlived quackery.

[To be continued.]

* Quetelet, l. c. Moser (Laws of the Probable Duration of Life, Berlin, 1839) shows that the results we have in reference to the mortality of the affluent are not quite satisfactory, inasmuch as they are obtained from registries of deaths alone. He says, p. 155, "In these days the influence of affluence is estimated somewhat too highly."

† Lombard, in Ann. d'Hygiène Publique, July 1835, showed that poverty had great influence in abridging life.

‡ Hawkins's conclusion (op. cit. p. 30) is fully borne out by the facts, when he says, "The man of affluence, the pauper patient of an hospital, the soldier and sailor on active service, the prisoner of war, the inmate of a gaol, all enjoy a better tenure of existence from this country than from any other of which we have been able to consult the records."

§ Cooper, Duration of Life, p. 23. An observation of Villermé in connection with England is this: In Archangel, between 1809-1827, there were 15,017 births, and 18,323 deaths. In the course of 18 years, therefore, the deaths exceeded the births by 3,306. In England, on the contrary, for every 100 deaths there have long been very regularly 101,33 births, so that the population doubles itself every 75 years.

HISTORY OF THE DISCOVERY OF THE TRUE THEORY OF MENSTRUATION.

To the Editor of the Medical Gazette.

SIR,

WILL you permit me to call the attention of the readers of your journal to the following statement, made in a review of Dr. Lee's Lectures, in the last number of the London and Edinburgh Journal of Medical Science, p. 325: less, however, with a view to commenting upon the statements there made, than to serve as a means of laying before the profession a *faithful* statement of the progress of discovery in that interesting subject—the physiology of the female sexual system.

In the periodical just mentioned, the reviewer, speaking of Dr. Lee's work, says, "The author combats some of the generally acknowledged theories of menstruation, and concludes by stating that "the determination of blood to the uterine system, which takes place every

month, and all the phenomena of menstruation, depend upon the ovaria; and that, at each period, a Graafian vesicle bursts, and its contents escape.' (See page 40.) In support of this statement he refers to cases in which, from the absence of the ovaria, whether congenital or otherwise, no attempt at the menstrual evacuation occurred; contrasting them with others wherein those organs existed, and the uterus was wanting, and yet in which violent pains, and all the other symptons of menstruation, except the actual discharge, manifested themselves every month. The most convincing proofs adduced by Dr. Lee of the phenomena of menstruation being dependent upon the causes specified, are to be found in the recital of six cases, in which he was afforded an opportunity of seeing the parts of females who had died whilst menstruating. The first of them was seen so far back as 1831. *We are thus particular in the date, because certain Frenchmen are greedily contending for priority in a discovery which is more justly due to Drs. Power and Girdwood**. In all the six cases enumerated by Dr. Lee, a ruptured opening in the peritoneal coat of one of the ovaria was observed, which led either to a Graafian vesicle on the point of bursting, or to a cavity which lately held the contents of one. Since the publication of these observations, Gendrin, Negrier, Jones, and others, have witnessed similar appearances. Indeed, so far back as the year 1797, Dr. Cruikshanks observed the same phenomena; but, as Dr. Lee remarks, there is no observation made in Dr. Cruikshanks' paper from which it can be inferred that he supposed all the circumstances of menstruation to depend upon the state of the ovaria; and therefore, although we must give Cruikshanks the merit of being the first who observed the fact, we cannot withhold from Drs. Girdwood and Power the credit of being the first who propounded the theory of menstruation being dependent upon the periodical development, maturation, and bursting of a vesicle in the ovary, whereby a sanguineous flux is determined to the genital organs. We are of opinion that the facts adduced by Dr. Lee, in support of this theory, if sanctioned by the observations and concurring testimony of other equally respectable authorities, will not only render it the most plausible and satisfactory theory which has hitherto been brought forward on the subject, but will go far to render it incontrovertible."

M. Gendrin is doubtless the "greedy Frenchman" here alluded to; for, in 1839, M. Gendrin published, in his Philosophical Treatise of Medicine, an account of five dissections of women who died during menstruation, in each of whom he found a Graafian vesicle ruptured. The author of the preceding remarks has taken particular pains to fix the date of Dr. Lee's first dissection (March 1831), but he has avoided altogether mentioning the time when M. Gendrin is said to have made his first dissection, which, from the following history, it would appear was the 8th of February, 1828. "Une femme de 30 ans, chez laquelle on avait remarqué un certain degré de dérangement des facultés intellectuelles aux époques des regles, fut trouvée pendue à la triangle de son lit, le 8 Fevrier, 1828; son mari declara qu'elle était à l'époque de ses regles," &c. When the other four cases occurred M. Gendrin does not mention. M. Gendrin states that, for many years, he had neglected no opportunity, at the Hospital of La Pitié, of ascertaining the condition of the ovaria prior to puberty—after menstruation had ceased at the critical age—in women who had menstruated regularly—in those who had the catamenia interrupted—and in those in whom suppression had been the result of chronic disease. M. Gendrin concluded, from the whole of his elaborate researches, that menstruation is only a periodical phenomenon of a function which commences at puberty and terminates at the critical age; this function consisting in the production and development of vesicles in the ovary: it brings periodically a vesicle, and consequently an ovum, to maturation on the surface of the ovary, either to be expelled or destroyed by the rupture and inflammation of the vesicle. This last act being the termination of the formation and evolution of each vesicle, and of the ovule which it contains, cannot be continuous; it is accomplished at regular periods, and it is to this that the hemorrhagic turgescence of the whole genital apparatus is owing, of which the result is the

* Vide Lancet, Vol. 1, for 1843, page 825.

menstrual uterine hemorrhage. The general results of M. Gendrin's anatomical researches on the immediate cause of menstruation have been stated by him in the following words. "Toutes les recherches anatomiques dont les resultats viennent d'être exposés, établissent evidemment que l'hemorrhagie menstruelle n'est qu'un phenomene periodique d'une fonction qui commence à la puberté et finit à l'age critique. Cette fonction consiste dans la production et le developpement des vesicules dans l'ovaire; elle amene périodiquement une vesicule et par consequent un œuf à maturation à la surface de l'ovaire, pour y être soit expulsé, soit détruit par la rupture et la phlegmasie de la vesicule. Ce dernier acte, étant la terminaison de la formation et de l'evolution de chaque vesicule et de l'ovule qu'elle contient, ne peut être continu; il s'accomplit à des epoques régulières; c'est à lui que rattache la turgescence hemorrhagique de tout l'appareil genital dont l'hemorrhagie uterine menstruelle est le resultat." (Page 29, Tom. II.)

The disposition of the fallopian tube, adds M. Gendrin, found in his second dissection still connected with the ovary, during menstruation suddenly interrupted by the death of the woman—the known function of the organ being to receive the liberated ovum—the energetic association of the uterus and ovary, marked in this circumstance as in the case of conception by uterine turgescence, and even by a special organic effort or process (travail) at the surface of the ovary—the constant presence of a ruptured vesicle, and the state of evident inflammation on the surface of the ovary at every menstrual period—all these circumstances make us presume that on this occasion the fallopian tube receives the contents of the vesicle and transmits them to the uterus. The rupture of a Graafian vesicle, M. Gendrin affirms, occurs at each menstrual period, and not after fecundation alone, as Sir E. Home had asserted. The results of direct observations, continues M. Gendrin, on women who are menstruating, are confirmed by negative facts collected from women who were not menstruating, or who have ceased to be so physiologically, having reached the critical age, or by morbid causes: "ils sont concordants avec l'absence, reconnue par tous les physiologistes, des vesicules de Graaf, et par consequent des ovules, avant le developpement de l'ovaire et la puberté, et avec la disparition de ces vesicules et des ovules après l'âge critique. La coincidence constante de la menstruation avec la presence de ces organes dans l'ovaire etablit une relation necessaire de cause à effet. On voit par là pourquoi la menstruation indique l'aptitude à concevoir: elle est immediatement lieé à une fonction qui continue dans l'ovaire, et qui y amène tous les mois une vesicule et un œuf à maturation," p. 31*. M. Gendrin ingenuously acknowledges, that he never, however, detected the ovule expelled from the ovary, either in the fallopian tubes or uterus. In the account of M. Gendrin's Third Dissection, it is stated, that he found two vesicles in the ovarium ruptured. From this observation, he says, "Il parait, qu'il peut se faire que deux vesicles du même ovaire arrivent en même temps à maturation et s'ouvrent simultanement. Cette circonstance, dans le cas de fecundation, expliqueirait les grossesses doubles." It is obvious from this fact, that it must be impossible in any case to determine from the number of cicatrices on the surface of the ovaria how often a woman has menstruated.

"We are particular in the date," says the reviewer, "because certain Frenchmen are greedily contending for priority in a discovery which is more justly due to Drs. Power and Girdwood." As I have before stated, nothing was said about the date of M. Gendrin's first dissection, February 8, 1828, which if omitted intentionally was a culpable act. Having stated the results of M. Gendrin's researches on the ovaria during menstruation, published in 1839, let us now see to what extent he had been anticipated by others in this difficult and most obscure subject of inquiry, and what ground there is for the accusation here preferred against him and others of his countrymen.

* An account of what had been of late observed by Dr. Kerkringius, concerning eggs to be found in all sorts of females, is contained in the Philosophical Transactions for 1672. "Man," says Kerkringius, "hath his origin from an egg." "Though this opinion about the first formation of man in an egg, as that of all fowl, is not common, yet 'tis true." "These eggs are to be met with not only in the testicles of women married, but also in those of maids." "These eggs are of the bigness of a pea, and they contain a glutinous liquor, which will be hardened by the fire just as the white and yolk in other eggs. The taste of

In 1821, Dr. Power published an Essay on the Periodical Discharge of the Human Female, in which he defined the efficien tcause of menstruation to be "an imperfect or disappointed action of the uterus in the formation of the membrane (decidua), which is requisite for its connexion with the impregnated ovum." "In the uterine system of the hen or pullet," observes Dr. Power, "the ova are found in every state of forwardness, without having been influenced by the male, containing the nutritive yolk and albumen, and possessing its crust, and only differing from perfect eggs in wanting the prolific contribution of the latter. In the frog, toad, and newt, as demonstrated by Spallanzani, and in fishes, the ova are perfected, as far as the female is necessary, without the assistance of the male, impregnation not taking place until they have been actually extruded from her generative organs. In vegetable generation the seed-pod or receptaculum contains the form, rudiment, and embryo of every future seed, even of the whole fruit, before the male organ is developed: as is beautifully demonstrated in the cucumber. Abundance of other instances might be adduced. The above are evidently the effects of a leading principle, which it is fair to infer is equally applicable to the human female. The mode of vivification of the embryo, and of the subsequent process of evolution in each individual, is to be regarded as a secondary and accidental circumstance, influenced by the peculiar structure of the animal. Thus, in birds, the ovum is matured by incubation; in fishes, by solar heat and moisture; while in the viviparous animals, the maturation is effected within the maternal system in a nidus termed the uterus. But the correct application of the above to the actions of the human female does not rest upon mere analogy. At and subsequent to the time of puberty, the enlarged ovaria are found to contain ova (?) in different states of perfection, and in women who have never been impregnated, corpora lutea, and cavities which have been supposed previously to have contained ova, have been detected; whence it may be inferred that, in them, not only the formation but the extrusion of ova is accomplished without the influence of the male. So far the analogy appears to be confirmed by facts admitting of demonstration, and which will scarcely be called in question. It will be attempted to show that menstruation is a farther link in the chain of these progressive actions, when they fail to be determined to conception by the operation of male influence." Dr. Power quotes the following passage from Dr. Cullen's First Lines, to prove "that the actions of the uterus at the period of puberty are influenced by the state of the ovaria. "As a certain state of the ovaria in females prepares and disposes them to the exercise of venery," says Dr. Cullen, "about the very period at which the menses appear, it is to be presumed that the state of the ovaria and that of the uterine vessels are in some measure connected together, and as generally symptoms of a change in the former appear before the latter, it may be inferred that the state of the ovaria had a great share in exciting the actions of the uterine vessels." Dr. Power does not notice the observation published by Mr. Cruik-

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them is flat and unpleasant enough: they are invested with one or two fine skins, which stretch themselves a little while after the egg has fallen into the womb, and change into two membranes called amnios and chorion. And as the two membranes are always found afterwards enwrapping the child, so 'tis very probable that the eggs of women are also covered with two skins from their beginning, though by reason of their fineness I could not distinctly see them. It seems that Fallopius hath seen these eggs before me, as appears in his Anatom. Observations. And as to the use they have in generation, it seems easy to be determined, by reflecting on what that very expert anatomist, Thomas Wharton, teacheth in his Treatise of Glandules, ch. 38, concerning the manner of conception. For according to him, semen viri penetrat in testes fœminæ per uteri tubas. Now there it is joyned with the egg in such a manner which hath not been explained till now, but it is nevertheless certain and much resembling to what comes to pass in the other oviparous animals."

"The egg being thus *fecond* descends into the womb through the vasa deferentia, and in two or three days grows of the bigness of a black cherry. When they fall down, they are a little bigger than we have represented them, but being soft, they are easily flattened, and never remain round. If in falling they are handled and slightly pressed. there will stick a little skin to the finger, which shews that 'tis not seed, or anything like it; but of such eggs as we speak. Fœminæ dejiciunt hæc ova imprimis tempore menstruorum, vel in Iræ vehementia." The last paragraph has been quoted for the purpose of proving that Kerkringius knew that unimpregnated ova, by which he meant Graafian vesicles, were thrown off at the menstrual period, and it has been alleged that an attempt has recently been made to defraud Kerkringius. It will be seen that Kerkringius here refers entirely to ova after impregnation, and that he asserts, what is perfectly true, that abortion takes place, or that they are frequently thrown off from the uterus at the menstrual period, or during the violent excitement of anger.

shank, in 1797, in a paper in the Philosophical Transactions, in which he says, "I have also in my possession the uterus and ovaria of a young woman who died with the menses upon her. The external membranes of the ovary were burst at one place, from whence I suspect an ovum escaped, descended through the tube to the uterus, and was washed off by the menstrual blood." There is no evidence to prove that Dr. Power ever examined the human ovaria during menstruation, to ascertain whether or not his hypothesis was well or ill founded. He furnished no direct proof of its truth from observations on the human subject; it rested solely upon analogy. "At, and subsequent to, the time of puberty, he says, indeed, the enlarged ovaria are found to contain ova in different states of perfection; and in women who have never been impregnated, corpora lutea, and cavities which have been supposed previously to have contained ova, have been detected." He adduces no fact to prove that these cavities actually contained ova, and he admits that they had merely been supposed to do so. But the existence of the unimpregnated human ovum was not demonstrated before 1827: when Dr. Power, therefore, asserted, in 1821, that ova escaped from the ovaria at each menstrual period, he made a statement for which he had no grounds: it could not have been applied to the real ova, which, as has just been stated, were not then discovered, and if he referred to Graafian vesicles, his statements were completely erroneous, because the Graafian vesicles are not discharged from the ovaria during menstruation, but remain after the function has been performed. Dr. Power, therefore, may be permitted to enjoy all the glory of propounding a theory, whilst it is remembered at the same time that of that theory he did not furnish one satisfactory proof. M. Gendrin, it is obvious from the preceding statements, both propounded and proved the truth of the theory; and yet, with other individuals equally distinguished, he is stigmatised as a "greedy, unprincipled Frenchman," contending for priority in a discovery which is more justly due to others.

There is no printed or published record of any observations having been made on the human ovaria during menstruation, either in this country or on the continent of Europe, from 1797 to 1831, when Dr. Power's hypothesis had nearly sunk into oblivion. From the article on the Ovaria by Dr. Lee, which was published on the 1st of April, 1833, in the 3d Vol. of the Cyclopedia of Practical Medicine, it appears that his first dissection was made on the 11th of March, 1831. The following is the account given of the appearances observed in this and three other cases which occurred to him in 1831 and 1832.

First Dissection.—On the 11th of March, 1831, we examined," says Dr. Lee, "the body of a young woman who died during menstruation, from inflammation of the median basilic vein. The left ovarium was larger than the right, and at one point a small circular opening, with thin irregular edges, was observed in the peritoneal coat, which led to a cavity of no great depth in the ovarium. Around the opening, to an extent of three or four lines, the surface of the ovarium was of a bright red colour, and considerably elevated above the surrounding part of the peritoneal coat. On cutting into the ovarium, its substance around the opening and depression was vascular, and several Graafian vesicles of different sizes were observed. The right ovarium was in the ordinary state. Both fallopian tubes were intensely red and swollen, and their cavities were filled with menstrual fluid. The lining membrane of the uterus was coated with the same fluid, and the parietes were soft and vascular. The size of the uterus was not increased."

Second Dissection.—In the autumn of the same year, a woman under twenty years of age died suddenly, from acute inflammation of the lungs, while menstruating. The body was examined by Mr. John Prout, and the uterine organs were brought to us for inspection. A red, soft, elevated portion of the right ovarium was also here observed, and at one part the peritoneal coat to a small extent had been removed; the edges of the opening were extremely thin and irregular, and in the substance of the ovarium under the opening was an enlarged Graafian vesicle, filled with transparent fluid. Numerous small blood-vessels were seen running along the peritoneal coat of the ovary to the opening. When the substance of the ovarium was laid open, several vesicles of various sizes, and at different depths,

were found imbedded in it. The free extremities of the fallopian tube were gorged with blood, their cavities were filled with a red-coloured fluid. The uterus was not enlarged, but the parietes were gorged with blood; and the lining membrane of the fundus was coated with menstrual fluid. A small coagulum of blood likewise adhered to the upper part of the uterus."

Third Dissection.—On the 2d of July, 1832, Sir Astley Cooper, to whom the writer had mentioned these cases, sent him the ovarium of a woman who died from cholera while menstruating. The ovarium was much larger than natural, and at one point there was a small irregular aperture in its peritoneal coat, through which a portion of a slender coagulum of blood was suspended. On cutting into the substance of the ovarium, it was found to be occupied by three small cavities or cysts, one of which was filled with a clear ropy fluid, another with semi-fluid blood, and the third, which communicated with the opening in the peritoneal coat of the ovarium, with a firm coagulum.

Fourth Dissection.—"On the 18th of November, 1832, the uterine organs were removed by Messrs. Girdwood and Webster from the body of a young woman who had died suddenly the preceding day, when the catamenia were flowing. Both ovaria were remarkably large, and both fallopian tubes were red and turgid. The peritoneal coat of the left ovarium was perforated at that extremity which was nearest to the uterus by a circular opening, around which aperture, for several lines, the surface of the ovarium was elevated, and of a bright scarlet colour, like extravasated injection; the margin of this opening was thin and smooth, and did not appear to have been produced by laceration. Its centre was slightly depressed below the level of the edges, but there was scarcely the appearance of a cavity beneath. The right ovarium was much larger than the left, and when cut into, a cavity or cyst was found, which was filled with half-coagulated blood. The peritoneal coat of this ovarium was entire. The uterus was large, and when cut into the parietes appeared to contain an unusual quantity of blood. The inner membrane was of a bright red colour, and coated with a thin layer of catamenial fluid. Both fallopian tubes were red and turgid, and the interior of the left was filled with menstrual fluid, but nothing in the form of a Graafian vesicle could be detected in the tube. The appearances now described have been accurately represented in a drawing made from the parts within two hours after they came into the author's possession."

Dr. Lee propounded no theory of menstruation from these facts, but concluded with the following simple statement, which even now seems to comprehend all that is yet positively known on this subject; viz. that the determination of blood to the uterine system, which takes place every month, and all the phenomena of menstruation, depend upon the ovaria, and that at each period a Graafian vesicle bursts, and its contents escape.

"We cannot withhold," says the reviewer, "from Drs. Girdwood and Power the credit of being the first who propounded the theory of menstruation being dependent upon the periodical development, maturation, and bursting of a vesicle in the ovary, whereby a sanguineous flux is determined to the genital organs." Upon what authority is this award made? Of course, Drs. Girdwood and Power,—it was Power and Girdwood before — whom, one would fancy, were associated in their observations, published upon the subject, before Dr. Lee was heard of in the Cyclopædia of Medicine, of April 1833, or M. Gendrin had appeared in his Traité Philosophique in 1839. No such thing. Dr. Power's hypothesis, as we have seen, was given to the world in 1821; when does the reader imagine Dr. Girdwood appeared upon the stage —in 1820 or 1821, surely? No! In 1831? No. In 1833, that he might have at least a claim to dispute the thing with Dr. Lee? Still the answer is *no.* It was not till March 1843 that Dr. Girdwood published his letter on the Theory of Menstruation (*vide* Lancet, March 4th, 1843), to the right interpretation of which he has just as much claim as he has to the discovery of the circulation of the blood, or of the Georgium sidus. *Publication* by lecture or the press is the only acknowledged test of date of scientific discovery; but we see that Dr. Girdwood only appears four years after the publication of M. Gendrin's Traité Philosophique, and ten

after that of the article on the Ovaria, in the Cyclopædia of Practical Medicine.

But your readers will be able, from the following definitions of the human ovum and corpus luteum by Mr. Girdwood, to judge for themselves of his fitness to propound a new, or rather to re-propound an old theory of menstruation, and to discover, from his profound ignorance of the very rudiments of embryology, how impossible it was that he could have advanced this department of science. "The barbarous nomenclature in use by physiologists," observes Mr. Girdwood (Lancet, 4th March, 1843), "the same expression being used by different authors in different meanings, has been another grand means of obscuring this subject. 'Graafian vesicles,' 'ova,' *are used as if they were different things.* Then we have the 'corpus luteum,' 'the true corpus luteum,' 'the false corpus luteum,' the one the result of impregnation, the other something as yet not satisfactorily accounted for..... I may as well define what these expressions mean, and thus get over the pons asinorum of the subject."...."Ovum, corpuscle, Graafian vesicle, are different names applied to those bodies existing in great numbers in the ovary, not only in women, but in the ovaria of all females where the sexes are apart—terms all of them expressive of those oval bodies found so numerous and formed periodically by all females of all animals, discharged from the stroma of the ovary at maturity, and that maturation effected by the female herself, without any influence having been exercised by the male; in fact, an ovum, as here defined, containing a macula germinitiva within a vesicula germinitiva, and this surrounded by the yolk or nutritive material, adapted for the future development of an embryo, is the elaboration, as far as female influence extends, in preparation for the future being, and waiting only for the influence of the male as a stimulus to its development." It is humiliating to the British physiologist to know that such ignorant incoherent nonsense should have been penned and published in the year 1843.—I am, sir,

Your obedient servant,

ANGLUS.

WOUND OF THE DEEP FEMORAL ARTERY:

LIGATURE OF THE VESSEL, AND OF THE COMMON FEMORAL.

BY JOHN CHARLES HALL, M.D.
Member of the Royal College of Surgeons of England.

(For the London Medical Gazette.)

BEFORE describing more minutely an important operation which I performed last week, it may render my explanation more plain if I recal to the recollection of the reader that the profunda femoris artery is given off about two inches, or two inches and a half, below Poupart's ligament, and ought to be regarded rather as a division of the femoral, than as one of its branches.

Probably the best description of these vessels we possess is that given by Murray, who describes the short branch of the femoral, below Poupart's ligament, as the common femoral, and its two divisions as the *femoralis superficialis*, and the *femoralis profunda;* the superficial femoral supplying the knee, leg, and foot, and the deep-seated profunda the thigh. With the above remarks I proceed to explain the operation performed by myself last week.

On Saturday night, March 31st, I was sent for, about half-past eleven, to the White Horse Public-house, East Retford. The landlord of the house told me a man had just been stabbed in the upper part of the thigh.* On entering the house I saw a man on the floor, covered with blood; there was an immense quantity of blood also upon the floor. Mr. Brew, the assistant of Mr. Davies, surgeon, was endeavouring to stop the hæmorrhage by pressing upon the trunk of the artery with a key. It was at once evident to my mind, on examining the wound, which was about two inches in length, that one of the larger arteries of the thigh had been wounded: my opinion at first was that the common femoral was the vessel wounded, and I at once proceeded with the purpose of securing it. On dividing the skin, it became clear that the knife with which the stab was given had passed from below upwards; the parts

* I have not mentioned, or alluded to, the nature of the case, as it will have to be decided by a Jury at the next Nottingham Assizes; a verdict of manslaughter having been returned against the party by whom the wound was inflicted.

had indeed been freely divided under the integuments, and I cautiously followed the direction of the wound. On removing the coagulated blood from its cavity, a slight oozing proceeded from the wounded vessel, and on Mr. Brew for a moment relaxing his pressure, a jet of blood flew from it. Enlarging the wound I came to the first portion of the artery, where the common femoral divides into its superficial and deep branch. I requested Mr. Davies to sponge away the blood, and then pointed out to this gentleman and Mr. Brew, a wound in the profunda, close to its origin, and passing upwards into the common femoral. I passed a ligature round the femoral, above the part where it was wounded, and above the origin of the profunda, another below, and another on the profunda, below the part where it was wounded: these three ligatures effectually stopped the bleeding. The man did not lose much blood during the operation; there was a little bleeding from a vein (probably the profunda femoris) which was restrained by pressure; the wound was cleaned with a sponge and a little cold water, and after a time closed by a few points of suture and some straps of sticking plaster: the limb was supported with a bandage covered with flannel, and the poor fellow placed in bed. Some brandy and water was given, and every attention paid to him. We could even now hardly detect any pulse at the wrist; he gradually got more feeble, and died at two o'clock on the following day, about twelve hours after he was wounded, evidently from the great quanity of blood lost before the arrival of Mr. Brew and myself: the man was surrounded by a pool of blood when I saw him first, and must have lost many pints. On examination after death, it was seen that the knife, (the blade of which was said to have been more than six inches in length) had passed from below upwards, and had entered both the profunda and the common femoral.

Remarks.—The above important case suggests the following remarks on the treatment of wounded arteries. In by far the greater number of cases of hæmorrhage from a wounded artery, we cannot wait for the usual natural processes by which bleeding is arrested, but must have recourse to immediate and certain means. In a division of the smaller arteries pressure may be sufficient, but in wounds of the larger vessels a ligature well applied is the only means that can be relied on. It is necessary to secure both ends of the wounded artery.

In the unfortunate case just described, both the profunda and common femoral had been penetrated, and it was therefore necessary to place the ligatures in the manner already described; for Mr. Hodgson has remarked that the necessity of tying both ends of a wounded artery is evident from the fact, that the anastomoses in all parts of the body are so extensive, as to furnish a supply of blood which may pass through the lower extremity of the wounded vessel in a sufficient stream to produce an alarming, and, in some instances, a fatal hæmorrhage* ;" and Mr. Liston,† that it will not be sufficient to include the vessel above the wounded point, for the lower part will, after some time, be supplied with blood by the collateral branches, almost as freely as by the large trunk, and consequently bleeding will be renewed. Two ligatures are to be employed, one above and the other below the wound."

The observation of Mr. Hodgson is proved to be correct by a case he mentions, in which death was caused by great loss of blood from the lower end of a divided brachial artery. Of course the inference is clear that both ends of the vessel ought at once to have been tied on the receipt of the wound. It has been suggested that in a case in which it was difficult to get at both ends of the artery, the trunk may be tied in a part of the limb where it can be easily exposed; for example, in this case of the wounded deep femoral, it would have been much more easy to have cut down at once upon, and secured, the common femoral high up in the thigh, than to have followed the course of the wound and secured the profunda. The case just quoted from the work of Mr. Hodgson is a sufficient answer, and in speaking of this practice, I find, he says, "it was falsely deduced from a knowledge of the fact, that the ligature of an artery at a distance from the disease will affect the cure of an aneurism. But a more inti-

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* On Diseases of Arteries, &c. p. 469.
† Elements of Surgery, art. Wounds, p. 236.

mate acquaintance with the condition of a limb after such an operation, and the processes by which the cure of an aneurism is effected after the modern operation, afford a complete illustration of the inefficacy and danger of this mode of treating a wounded artery; for it is now fully proved, that, when an artery is tied, a stream of blood continues to pass through it below the ligature*." In some well authenticated instances, however, success has attended the application of a ligature to the upper end of a wounded artery only, (Mr. Hodgson and Mr. S. Cooper both allude to them), the patient having recovered without bleeding from the lower orifice, which appeared to have been closed by the natural processes. It is an experiment which I should never try, and we may content ourselves by quoting, in reference to this part of the subject, the words of that experienced surgeon, Mr. Liston:— "Cases of hæmorrhage," he says, "have occurred, in which the tying of the vessel immediately above the wound has been successful; *but these are few, and by no means afford any argument for the adoption of such a measure*†."

The occurrence of this unfortunate case brought forcibly to my mind these words of Mr. S. Cooper:—"As a bleeding vessel admits of no delay, and the preservation of his life entirely depends upon proper measures being immediately taken, no man ought to be suffered to profess surgery who is not competent to the treatment of wounded arteries, whether injured by accident or in a surgical operation. Loss of limb, or life itself, is the too frequent consequence of such ignorance." It is a comparatively easy task for a surgeon of good nerve, even when only moderately acquainted with the anatomy of the part on which he is about to operate—in the theatre of an hospital, surrounded by a brilliant medical staff, having a good light, proper instruments, and all other appliances — having had time to think over, to consider each step of the operation some days before performing it, to cut down upon an artery and secure it. But these are not the only circumstances in which the surgeon must expect to be called upon to operate. He must also be ready at a moment's notice, with the kitchen of a beer-house perchance for his theatre; a floor deluged with blood for his operating table; his only light a couple of tallow candles, and a crowd of drunken men, not easily prevented from pressing upon him when operating, for his spectators. In conclusion, I have to express my sincere thanks to Mr. Brew for the coolness and patience with which he seconded me, and also to Mr. Davies, for his valuable assistance in the course of the operation.

East Retford, April 3, 1844.

* P. 471. † P. 237.

EFFECTS OF OPIUM ON THE CATAMENIA.

To the Editor of the Medical Gazette.

SIR,

IN the number of the MEDICAL GAZETTE for the 16th of March, is a paper taken from the New York Journal of Medicine, written by Dr. James M'Cune Smith, which commences with the following quotation:—

"Pereira observes that we have little positive information as to the effects of opium on the reproductive organs of women: it is said that the catamenia, lochia, and secretion of milk, are unaffected by it; whence he infers, that its use in the female is not likely to be attended with suppression of the uterine or mammary functions." Dr. J. M. Smith then goes on to refer to certain cases which had fallen under his notice within the last four years, and which give uniform evidence contrary to the above view. The cases are five in number, in all of which the catamenial discharge was suspended by the habitual use of opium.

It is somewhat singular that my own experience, extending over a period of somewhat more than thirty years, is directly opposite to that of Dr. J. M. Smith, and I think it but right to state the fact, as some of my professional brethren might be led to confide too implicitly in the power of opium to suppress the catamenial discharge, whereas I do not recollect one case in the whole course of my practice in which such an effect was unequivocally produced: I have, on the contrary, known many where the catamenia returned under the use of opium. These were more especially cases of gastrodynia, occurring in young ladies, and

also of difficult and painful menstruation, where an opiate acts like a charm in relieving the spasm and inducing a free flow of the discharge. But to come more immediately to the point—that is, to the habitual use of opium—I have at this present time a patient who for some years has been in the daily habit of taking large doses of black drop, and for the last two years several grains of the muriate of morphia in addition: at the present time I find her daily dose is one entire bottle of black drop, and eight grains of the mur. morphiæ. This lady is 45 years of age, is unmarried, but labouring under a disease which occasions her great suffering, and yet up to the present period no suspension of the catamenia has been produced.

I will extract two other cases from my note-book, in both of which the quantity of opium taken daily for a series of years was very considerable, and no suspension of the catamenia was the consequence. But the object of my recording these two cases was, the effect which I supposed the large and long-continued doses of opium to have produced upon the gestative powers of the uterus, each of these ladies having, after marriage, borne one healthy child at the full period, and afterwards having each produced several children at the periods of six, seven, and eight months, feeble and emaciated, and none of which lived beyond a few hours. The first of these ladies, when only sixteen, consulted a practitioner on account of spasms at her stomach: he directed her to take twenty drops of laudanum when the attacks came on; it however, soon became necessary to increase the dose, and the use of opium by and by became a daily habit. She consulted me previously to her marriage. She was then twenty-six years of age, and her daily quantity of laudanum was six ounces. Vain attempts were made to overcome the habit, and she died in her fortieth year, the catamenia occurring regularly during the whole of that period, excepting whilst pregnant.

The second of these ladies, when I knew her, was married to her second husband; it was during the life of her first that she acquired the habit of taking laudanum, and at the time I speak of the quantity was enormous—not less than 12 ozs. per diem; notwithstanding which, the catamenia occurred regularly, and she bore one healthy child, and afterwards had a succession of miserable premature children: she died at the age of 44. I could, were it necessary, adduce many other cases to show that the functions of the uterus are not usually suspended by the use of opium.—I am, sir,

Your obedient servant,
EDWARD GREENHOW, M.D.

North Shields, April 24, 1844.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Practical Observations on the Prevention, Causes, and Treatment of Curvatures of the Spine, &c. By SAMUEL HARE, Esq. Surgeon. 2d edit. pp. x. and 177, royal 8vo. Churchill.

THERE are various classes of books, of medical books especially: some, the purpose of which is to give the world new information; these are A, No. 1 books—*rari nantes in gurgite vasto!* Others, the business of which is to give connected and collected views of particular subjects; to criticise all that has been advanced upon them under the guidance of sound physiology, pathology, and therapeutics; and to draw general inferences for the information and guidance of those who have less experience, less learning, and less leisure than the writers; these constitute A, No. 2 books. There is a third class of books which, if they neither contain aught that is new, nor display anything like research or learning, or experience, are still within the pale of endurable books; they are the offspring of the younger members of the profession, men of liberal education, anxious to try their pinions, and who, without stooping from their rank as scholars and as gentlemen, are desirous of making their name and whereabouts known to the world. These are a better kind of inaugural dissertations, not altogether culled from the professors' note-books. They form the B class; their authors will rise, and get into one grade or another of the A class by and by.

There is a fourth class of books, which carry the black flag unblushingly stamped on their cover and title; they are the productions of ignorant

empirics, and openly profess quackery. These books are No. 1 of their class; but it is a very low class—among the last letters of the alphabet.

The fifth and final class of all comprises those books that, under friendly colours, entice unsuspecting strangers to come within range of their guns, and to speak them; they even invite the strangers on board, and set meat and drink before them, which seem wholesome fare enough; but woe to the unwary partaker!—the meal is "mandragora," the drink is "eisel." These constitute the Z class of books, and there is no grade in it. Such books are the products of members of the profession, regularly received, duly qualified to practise, but who have fallen away from their oaths and the high destinies to which they were called; who, out of an incongruous mixture of science and ignorance and a purpose to deceive, prepare a mess which, utterly rejected by the professional stomach, has nevertheless been found, by long experience, to accord well with the digestive powers of the community.

How ought we in our independent critical capacity to entreat these different classes of books? The first and second we of course take to our bosom, and love and cherish; the third we do not reject—the child creeps before the man walks erect. The fourth we ignore; the fifth we hold as adders fanged, and feel it to be our duty to do our best to strangle them—at all events to extract their sting, and make them harmless.

Mr. Samuel Hare's book is a very pretty specimen of our third and fifth classes combined. It has a decidedly juvenile, a green aspect—class the third; but then its pictures of the table like a rack, and of the crooked spines, and the general tone of the text, give it unquestionable claims to a place in our fifth class. In his preface to the first edition, Mr. Samuel Hare tells us that "the great increase of spinal distortion, particularly of late years, and its alarming prevalence at present, together with the various and discordant opinions which have long existed as to the causes of the disease, and the most efficacious plan of treatment, will, it is presumed, furnish a sufficient apology for the publication of another treatise on the subject." We deny that these reasons will have any such effect. If S-like back bones be common, the cause or causes of them are perfectly well understood; and if there be one point in surgical therapeutics more than another upon which unanimity of opinion prevails, it is in regard to their remedies.

Mr. Samuel Hare proceeds:—"The author's attention has been particularly directed to the study of this disease, from the circumstance of his having been, some years ago, afflicted with a morbid sensibility of the spine, during the progress of which his sufferings were very considerable, and necessarily productive of great inconvenience." This is an old trick; our friend Charles Dickens would have written "dodge"—*quaque ipse*, &c.; of course, no one so competent to write practical observations on the prevention, causes, and treatment of curvatures as he who has himself suffered from "a *morbid sensibility of the spine*, during the *progress* of which his sufferings were *very considerable*, and necessarily productive of *great inconvenience*." Who the devil would doubt it?

But we are recalled by the profane word that has just dropped from our pen, to the recollection that we have—we surely must have—a saint in hand. He begins his introduction in a pious strain:—"The human body," he tells us, "exhibits indubitable evidence of consummate skill..... None but a Being, whose essential attribute is boundless benevolence, could have originated a performance so benevolent and complete." Originated a performance so benevolent and complete!—the human body a *benevolent* performance!—complete, granted; but how benevolent? Let us go on:—"In the splendid chain of animated existence unfolded to view by the master-hand of nature"—Mr. Samuel Hare obviously here confounds the work with the Creator, the effect with the cause; or he calls nature God, which orthodox Christians say is Atheism; but we acquit Mr. Samuel Hare of any such impiety as this. To proceed:—"Our view is indeed limited in its range, and obscure in its perception; nevertheless it exhibits"—he means perceives—"an almost endless variety of beings, rising one above another in the scale of progressive gradation; displaying different degrees of corporeal and instinctive excellence; and terminating in him-

self,"—himself—who? Our view is limited, nevertheless *exhibits* degrees of excellence terminating in *himself*—we follow without break—"himself,—being vastly superior to the rest in intelligence, and the delegated master of them all." Now this is obviously not addressed to the profession, but is drivelling asinine cant. No one who deeply feels, and truly understands God's handiwork in his creature man, writes in such a strain; he who does so has no title to a hearing on the subject from his brethren.

With the samples already given our readers will not of course expect to find anything worth noting in the book, the form of which, in fact, shows that it was not intended for the profane professional reader; it is a magnificent royal octavo, inclosing good typography upon the best of paper, within handsomely embossed boards; and very certainly, or we mistake Mr. Churchill's clear-sighted apprehension of the relation betwixt cause and effect —*cause*, publication of Mr. Samuel Hare's book; *effect*, loss of money by the business,—very certainly the private speculation of the author himself. Him it will cost money; but it will do to advertise, and there be fools enough in the world from whom he may reasonably hope to win his money back again. The book is not intended for our profane hands; we only trust there is no scrap of any sentence in what we have written which Mr. Hare can detach from the context and twist into an approval of his labours. How he should have sent us his book at all we do not understand. We trust we have satisfied him that it has fallen into not unmindful hands.

Is Samuel Hare, Esq. quite sure that these pictures of distortions—monuments of the effects of his treatment—are always placed in their proper sequence? Ought not 1, 2 occasionally to be to 2, 1; 2 being the back before it was put *to the question*, 1 the back after the torture? We have seen patients made *straight* enough, God knows, by such procedures as Mr. S. Hare advises; but they never could walk afterwards. They were straightened; but it was much as Mr. Mould would have straightened his subjects; and they had to become dependent to the end of their lives for the treatment which that respectable gentleman only looked to bestow once upon any individual, and that when he was done with life: they had to be carried about upon their backs to the end of their days.

MEDICAL GAZETTE.

Friday, April 26, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO

THE GRINDING SYSTEM:

ITS CAUSES AND REMEDY.

No. II.

In reflecting on what we wrote in our last upon this pernicious system, we see more and more clearly that the grounds we gave for the practice are the true ones. — To grind for the Apothecaries' Hall is universal; to grind for Surgeons' College is unfrequent; to grind for the office of house-surgeon to one of our great hospitals is unknown. The examination in no case extends over an hour; it is rare that it proceeds for more than thirty, thirty-five, or forty minutes. At Apothecaries' Hall, in this brief interval of time, the entire Cyclopædia, not merely of the strictly medical, but also of the accessory sciences, has to be gone over; occasionally, too, the Latin language is included. At Surgeons' College, anatomy, and the doctrines and practice of surgery, alone occupy attention. At our hospitals the practice of surgery is the principal or sole theme, with no more than a question or two, by the way, on anatomy.

We accede to the proposal without limitation, that members of the medical profession ought to be men of the highest education: they ought to be competent classical scholars; they ought to have a fair knowledge of Physics, Chemistry, and Natural History, including Zoology, Botany, and the commercial and chemical history of the

substances employed as medicines. But it is quite obvious that these various subjects have no immediate connection with the science and practice of medicine. He who is profoundly ignorant of the natural history of rhubarb, for instance, may still be a master in the art of prescribing it; he may be perfectly familiar with its effects, and appreciate to a nicety the circumstances in which it is indicated, yet all the while know nothing of its botanical position, of the course by which it arrives from the frontiers of China, over the deserts of Russia, and by the Baltic Sea, to the warehouses of the drug-merchant in Thames Street. Such knowledge ought to be possessed, but it ought evidently to be as a preliminary to the study of medicine, properly so called; it is too late a day, when a young man presents himself to be examined touching his knowledge of the structure and functions of the human body, of the derangements to which this structure and these functions are obnoxious, and of the means at command of abating or removing them, to be interrogated about the pentandria monogynia, and the like. No; let there be a preliminary examination in regard to all the sciences, which, however desirable, however needful, we will allow, are still no more than accessories; which have served but to prepare the mind aptly to receive, and duly to appreciate, the sciences which are properly, and in truth solely, medical.

A preliminary examination, then, by competent men, it strikes us, is the first and most necessary step to secure the public in the services of duly qualified medical attendants. And this examination must not be the mockery which the optional preliminary examination in classics, *i. e.* the parsing of a dozen lines of Celsus, or Gregory's Conspectus, is at this time at Apothecaries' Hall. This is the veriest mockery that can be imagined; two in three of the young men who pass it are actually incapable of construing a page of any Latin author on which they have not been expressly crammed. We have ourselves, out of curiosity, examined more than one young man who passed the Latin examination at Apothecaries' Hall *creditably*, and found them alike and utterly ignorant of the Latin tongue,—ingenuous and amiable young men, they owned to as much: how they could have passed was incomprehensible to us, and indeed to themselves it seemed no less so—*they did not know how they had got through.* If the Latin tongue be held necessary, let a knowledge of it be secured; if it be not necessary—as to the general practitioner it certainly is not—let it be dispensed with; a knowledge of the French were a thousand times more useful at this time of day than the Latin.

A preliminary examination, then, on the sciences accessory to medicine, we reiterate, by competent men, appears to us altogether indispensable. Are the present Court of Examiners at Apothecaries' Hall competent? We answer unhesitatingly, and without disparagement to the respectable gentlemen who compose it, that the duty they have to perform is not only beyond their strength, but beyond the strength of any equal number of medical men in the kingdom. The subjects they are required to embrace in their examination are too numerous and vast. Each individual has, therefore, nothing for it but to get up a limited portion of any one, and this circle of short radius he travels over and over again, until he has trodden it bare, and it becomes as distinctly marked out, and as well known to the grinder, as the path from Bridge Street, Blackfriars, to the Strand.

These examiners, again, are mostly men somewhat advanced in years. Age, God knows, is no sin; but it is a

disqualifying circumstance in an examiner upon physical science. Young men can only be well and truly tested as to their diligence and knowledge, in what is called the *science of the profession.* But science is ever progressive, and, alas the day! when we have passed the middle period of life, we do not advance with her. The general anatomy of the present day, how different from that of Bichat, even from that of Mr. Grainger (1829), and of our contemporary, Dr. Craigie (1831)! The physiology of 1804, how different from the physiology of 1844! Chemistry in her present guise would scarce be recognized as their once-loved mistress by Stahl and Black, Lavoisier and Fourcroy; even Davy, dead but some half dozen years, would pause before he said she was the same whom he had wooed so ardently, and so triumphantly had won. There is nothing for it then, we believe, but Examining Committees of men between 30 and 50 years of age,—brief interval in the life of man, when the judgment is mature, the experience is ripe, the pursuit of knowledge has scarcely slackened, the thirst for new information has not yet been quenched! These are the men who, of the day, are still its front and eye, who are ever in advance of aught that the grinder has to give, and who can always make his efforts at cramming nugatory. Why do the young men not grind for the College? Because the circle upon which they are taken there can be compassed; and because, as they say, the examination at the College is *fair;* by which is meant, that there are few or no fancies indulged in for specific answers to specific or preconcerted questions; that the examiners are, in fact, familiar with the *whole of the subject* upon which they put questions, and can in a moment detect the man who is crammed, from him who has laboured diligently during the term of his pupilage, and who has by his own application made himself master of the rudiments of his profession. *General proficiency* here is the only test, and ought to be the condition indispensably requisite to carry a man through. But to ascertain general proficiency, is it not obviously necessary that the examiner should himself be proficient; that he should be intimately acquainted with the entire branch upon which he conducts an examination? And how shall we hope for proficiency in all branches, among any set of men in the world; how much less in a committee of men, selected indiscriminately, by seniority or rotation, mostly of limited education originally, and whose tastes and pursuits are often as alien to science as light is to darkness? Where is the examiner in the Court of Apothecaries' Hall who has advanced botany, or chemistry, or electricity, or medicine, or who has name and fame for his knowledge of any one of these subjects? on each and all of which he is, nevertheless, required to test the science of candidates for their license. If it be not the somewhat subordinate department of midwifery, there is not a member of it who is known beyond the circle of his own private connections. How different the constitution of the Court of Examiners at the College of Surgeons! Here we find men of liberal education, who have made for themselves European reputations, who have extended the boundaries of human knowledge, and who have, almost without exception, as heads of great hospitals, had unlimited opportunities of acquiring the art and science of their profession. It is the same at the College of Physicians, where we have known the Court of Examiners constituted by such men as Bright, Chambers, Holland, Paris, and the accomplished Halford. At the College of Surgeons, at this moment, we perceive the examining body numbering

such names as Brodie, Cooper, Guthrie, Lawrence, Travers, and others less widely known to fame only because they have not proclaimed themselves through her approved instrument, the press. It is because there are intellects like these presiding at the College of Surgeons that the examination there is not to be achieved by the degrading process of grinding, with all its evils, antecedent and prospective—idle and vicious habits contracted as antecedents, ignorance and incapacity entailed to the end of life as consequences.

Examinations, however, in all our institutions, want much to render them what they ought to be. If they have any meaning at all, they ought to be felt as a bar insurmountable to incompetency. But are they so? We answer, never. The booby who would not even have made a respectable bricklayer or shoemaker—whose destiny, by nature's fiat, was hod-man, hewer of wood, drawer of water—who would have looked well taking his part at a two-man beetle, and making pavements for the public—is finally let loose upon the world, to become responsible for the limbs and lives of the community; and this upon the score, at length, of—what will our readers imagine?—*the number of times he has been rejected.* "This is very bad!" says the examiner. "It is the third, or it is the fourth time I have been up," whines the dolt. "Well, well, my poor fellow," adds the examiner, "you shall pass this time." And so the seeming strictness of the examination ends. Now the examiner here is no whit more defensible than were the juryman who should lend himself to a verdict contrary to the evidence adduced. *The profession ought to be altogether inaccessible to incompetency.* We trust that the day is not far distant when it will be so. Two or three cases of final rejection—of declared incompetency to become members of the medical profession—would have a most salutary effect on the whole tone and temper of the medical student's life and habits, and would prove another and a well-directed stab at the vitals of the vile grinding system.

COLLEGE OF SURGEONS,

AND THE COMMITTEE OF THE MEDICAL PROTECTION ASSEMBLY.

[The following address has been sent to us by the Committee, for publication in our Journal:—]

An Address from the Members of the Royal College of Surgeons of England to the Council of that College.

Gentlemen,—In addressing you, at this vitally important juncture, as the governing body of the College of which we are members, we shall not offer to you either the language of remonstrance or complaint; but we feel it to be a duty which we alike owe to the public, to the Crown, to the members of the medical profession, and to ourselves, to remind you of the power which you have authority to exercise under the provisions of the Charter which her gracious majesty granted to our College in the month of September, 1843.

In the *second* section of that royal decree you were empowered to elect, within three months from the date of the sign manual of the Sovereign, not less than two hundred and fifty, nor more than three hundred MEMBERS, who should, from thenceforth, become FELLOWS of our College. In the same section it is also provided that *after* the expiration of three calendar months, and *within one year* from the date of the Charter, "any *other persons* whom the Council shall *think fit and appoint*, shall be FELLOWS of the College."

We also request your attention to the *fourth* section of the said Charter, which we here present to your notice verbatim:—

"4. That it shall also be lawful for the Council of the said College, at any time or times after the expiration of the said three calendar months, and before the expiration of one year from the date hereof, by diploma or diplomas under the seal of the said College, and in such form as the said Council shall

think fit, and without any fee, to appoint any other person or persons (being a member or members of the said College) to be a Fellow or Fellows of the said Royal College of Surgeons of England."

You have already selected, within the period prescribed by law, the three hundred members of our body, and created them Fellows of the College.

On the principles which have guided or regulated your choice in this selection we offer no comment; but we consider it to be our duty to remind you that *additional* creations of Fellows have not been announced by you, although *four* months have elapsed since the 14th of December last (when the first three months of your power to elect fellows terminated), and that there remain but five months of the entire term which the Charter has prescribed for the further exercise of your authority. Hence it has become our imperative duty to remind you of the power with which you are invested by the Crown.

The members of our College amount to upwards of ten thonsand in number. For ought we know to the contrary, only three hundred of us have, up to this time, been created Fellows by you, under the provisions of the new Charter. This is rather an alarming result of a seven months' exercise of your creative power.

The *Fellows*, be it remembered, are to be the future *electors* of the Council.

The privilege of *election* is a right which we, the members, have endeavoured to obtain from the legislature during nearly twenty years. Instead of conferring it upon *us*, directly, the Crown has invested *you* with full authority to enfranchise us. The Crown rightly jndged, perhaps, that *you*, who granted us our diplomas, must be better acquainted with our characters and capabilities than could be any body of unprofessional persons with whom we had never been intimately associated.

The fact, in truth, cannot be concealed, that *you* have authority to enfranchise *every member of the College who resides within the limits of this kingdom*. You might even bestow the fellowship on members who live beyond those limits. For the proofs of these allegations we refer to the sections already quoted, in which it is distinctly stated that it shall be lawful for the Council, within twelve months from the date of the Charter (14th September, 1843), to appoint, without fee, "any other person or persons, being a member or members of the said College, to be a Fellow or Fellows of the said Royal College of Surgeons of England."

These words admit not of two interpretations. They possess an obvious, a perfectly unequivocal meaning. The authority to create *thousands* of Fellows from among the existing members of the College is by law vested *with you*, the Council.

Thus, the power to enfranchise us, to bestow upon us the right of electing the future Councillors of the College, *now exists with you*. It will *expire* on the 14th of September next. We think, then, that we are justified in demanding at your hands that it shall be exercised promptly, comprehensively, liberally, justly; and we venture to express an anxious hope that the employment of it, by you, will not be tainted either by prejudices or dishonest partialities.

We refer to this new *Charter*, which has invested you with so much authority, as to a highly important sign in the present crises of our affairs. We respectfully remind you that as *you* are now empowered by law to bestow upon us the right of enfranchisement, so upon *you* will fall the whole weight, responsibility and disgrace, which would attend an unconstitutional, illiberal, unjust, exercise of the unusual functions with which you have been invested by the Crown. We have the honour to be, Gentlemen, your's, &c. &c.

[There is much in the above address to command attention, everything to secure respect; in taste as well as form it is unexceptionable. We may reasonably expect, before many weeks have passed, to have the whole subject of the medical institutions of the country before us in the bill of the minister, till which time we withhold comment.—Ed. Gaz.]

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

We trust we were not the cause of the somewhat thinner attendance than usual of the Fellows at the very interesting and animated meeting of Tuesday evening last. We are happy to assure the Fellows that they may now venture upon the Society without risk of suffocation; they will, in fact, feel more at their ease than they have done during the whole of the present season.

There *was* fresh air admitted on Tuesday, the gas lights were judiciously tempered, and though the room did become warm towards the close of the meeting, it never reached the coke-oven point of the preceding evening; the atmosphere never felt disagreeably hot, never in the least oppressive. The consequence was that the Fellows' lungs did their office duly, that the Fellows' brains were adequately supplied with properly decarbonized blood, and that the evening proved one of the most pleasant and instructive which we have ever passed within the walls of the Society.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.

On Monday, the 22d instant, the distribution of prizes among the pupils of St. George's Hospital Medical School, for the Session 1843-44, took place in the theatre, Kinnerton Street. William Pepys, Bart. in the Chair.

Clinical Surgery, by Sir B. Brodie.—Prize, Mr. Thomas H. Smith; Honorary Certificate, Mr. I. Tyrell C. Ross.

Practice of Physic, by Dr. Macleod.—First Prize, Mr. Edward Martin; Second Prize, Mr. F. E. Barton; Honorary Certificate, Mr. J. H. B. Sandon.

Surgery, by Mr. Hawkins.—Prize, Mr. T. H. Smith; Honorary Certificate, Mr. George F. Fletcher.

Materia Medica, by Dr. Nairne.—Prize, Mr. Edward B. Batten; Honorary Certificate, Mr. Edward H. Philipe.

Anatomy, by Mr. Tatum.—Senior Prize, Mr. R. W. Coe; Honorary Certificate, Mr. T. H. Smith. Junior Prize, Mr. William A. Gillow; Honorary Certificate, Mr. J. C. Collins.

Midwifery, by Dr. Lee, who, however, was prevented, by a professional engagement, from attending.—Prize, Mr. Richard F. Freeborn; Honorary Certificates, Mr. T. H. Smith and Mr. F. E. Barton.

Botany, by Dr. Dickson.—Prize, Mr. James George; Honorary Certificate, Mr. James J. Mitchell.

The prizes consisted of useful books handsomely bound.

OLEAGINOUS URINE.

To the Editor of the Medical Gazette.

Sir,

The reply of Dr. J. W. Griffith to my inquiries in reference to a case of *oleaginous*, not *milky* urine, as it is headed in your number for the 1st of March, even though it is coupled with directions to "read his book," with which I have complied, is not at all satisfactory to me in elucidating the pathology of the case I narrated, however gratifying my fulfilment of his wishes may be to him. If my memory serves me rightly, the purpose of Dr. Golding Bird's request was to be informed of cases of oleaginous or milky urine, in order that by the comparison of their several symptoms, &c. some light might be thrown on their pathology; and my object in publishing the case I had met with was, first, to aid Dr. G. B.'s inquiries; and next, to learn where I could meet with figures of the salts of the urine and other animal fluids; for had I been aware of the existence of Dr. Griffith's work, I should have referred to it at once for some of the appearances presented by the salts of the urine, and I should only have mentioned the symptoms of the case, and the concurrence of oily matter with the peculiar saline deposits.

Dr. Griffith's reply, then, is not satisfactory to me, first, because he has left the main pathological question untouched; secondly, because neither he nor "his book" explain the nature of *all* the crystalline forms observed; and lastly, and perhaps not least, because when, avowing my ignorance, I ask for information, I am reproached for inattention to particulars of the importance of which I was not aware. Perhaps, however, I do not "kiss the rod" as I ought, and, like many sinners in graver matters, console myself with the reflection that I sin in very good company; otherwise, Dr. G.'s book, or some other of the kind, would be in the hands of more medical men than I fear it is at present.

Touching my omission of one particular, viz. the colour of the crystals, I mentioned the *redness* of the lithic acid on the sole occasion when I did observe any colour; though, Mr. Editor, thanks to my bad writing, and to your printer's devil, I was made to say mulberry-*shaded* instead of mulberry-*shaped* grains. Next, as to neglect to point out the size of the crystals, my ignorance must be my shield, for I have all my life thought that magnitude has a relation to distance, and as I have no micrometer fitted to my microscope, I fear I must continue to mistake Dr. Griffith's mountain for the mouse that proceeds from it. But if the Doctor wishes to know the power of the object-glass, it was $\frac{1}{10}$th of Powell's that I used, though the objects were visible by a much lower power.

In excuse for my third neglect—to apply more tests—I beg to state that my search was directed to the organic matters of the urine, and not to its salts; and concluding that I should meet with all the insoluble portions in the sediment, I only reserved a few drops of this for examination, which I placed on a glass slide, testing different portions of it with nitric acid and liq. potassæ.

The same excuse must serve for my inattention to the *quantity* of the oleaginous matter, which was exceedingly small, as it only arrested my attention under the microscope; but as its presence (which I tested with æther) and not its amount, appears to me to be the chief feature of the case, I do not see that Dr. G.'s objection on this score has much weight.

The last blow of Dr. Griffith, and the heaviest of all, because it is weighted by "the best authors," is one aimed at my practice in giving calomel and squills, and saline diuretics, viz. Acet. Ammon., Pot. Tart., and Sp. Æth. Nitr. in albuminuria after scarlatina. But even a worm will writhe, and I would venture to remind Dr. Griffith that if he be as well acquainted with the *practice* of medicine as he is with some of its collateral branches, he must know that the very best theories of the nature of a disease are frequently very unsafe guides in the treatment of it. Of this truth I would refer him for many melancholy examples, to the hyper-theoretic practice of our Gallic neighbours, who have not long learned that purgatives may be safely given in gastro-enterite, and have been sitting lately in solemn conclave, in their Academy of Sciences, to hear the question discussed, whether opium, in *any* form, may be used in inflammatory diseases. In my case there appeared to me to be more danger from congestion of the lungs than of the kidneys; and as the weakness of the patient precluded the abstraction of blood, I gave him calomel to affect his mouth, and thus check the inflammatory symptoms, at the same time that the squills would promote expectoration, and assist the action of the diuretics.

In a very protracted case of albuminuria after scarlatina that I attended some time back, in which there was threatening of hydrocephalus, and which I had treated according to the "best authors" in vain, I found Quinine and Sulph. Acid effect a speedy cure, my theory being, that the albuminuria, which had begun in irritation, was kept up by the debility of the vessels, which state quinine would probably cure, as, indeed, it very quickly did. In short, if I cure my patients, *cito, tuto, et jucundi*, it matters little to me whether I act in accordance with the views of the "best authors," or those of one who is nullius addictus jurare in verba magistri.

I am, sir,
Your obedient servant,
T. Ogier Ward, M.D. Oxon.

21, Lower Phillimore Place, Kensington,
April 18, 1844.

P.S. The spiculated crystals which I observed were lithate of ammonia, (Plate I. fig. 3, of Dr. G.'s "book"), not lithate of soda, as Dr. Griffith supposes; but I cannot say whether the sword-shaped forms were chloride of sodium modified by urea, or the bibasic phosphates; but I suppose the former, as they were, in several instances, so varied in their shape as to resemble the last form in Plate II., fig. 30, op. cit. except that the arms of the cross were more circular than oval, like the crenated outline that would be presented by four, five, or six equal circles meeting together in contact, or like Gothic trefoils, quadrefoils, and cinquefoils.

ON THE GASTRIC JUICE,

AND ITS INFLUENCE IN NUTRITION.

By M. Claude Bernard.

The general tendency of the researches of modern chemists and chemical physiologists has been to reduce the action of the gastric juice to that of a simple solvent of the solid articles of food. Fluid articles of aliment have been held independent of its action; they can make their way into the blood, in virtue of their fluidity; and having done so, they were believed competent to serve all the purposes of nutriment in the animal economy. The experiments of M. Bernard are both interesting and important, inasmuch as they go far to demonstrate that these conclusions are premature; that the gastric juice does more than merely reduce solid articles of aliment to the liquid state and so fit them to enter the circulation, and that liquid aliment, admitted to be of the most nutritious kind, is so only after it has undergone the action of the gastric juice; gum, sugar, albumen, &c. introduced directly into the circulating system, are not retained and used by the living being for its various purposes, but are forthwith separated and thrown out as foreign to its nature, and incapable of ministering to its wants.

The gastric juice is admitted on all hands to be an acid liquor; but its acid has been variously stated to be the acetic, the hydrochloric, the lactic, the phosphoric. The latest analysis of the fluid which we possess, is that of M. Blondlot, according to whom it consists of water 99 parts, salts and organic matter 1 part, the salts consisting of superphosphate of lime, phosphate of ammonia and chloride of sodium, the organic matter of certain aromatic principles, mucus, and a particular matter (pepsine or gastrose?). [The acid according to this account would therefore appear to be the phosphoric; but it seems highly probable that the lactic acid which is notoriously produced in such quantity from the food during the act of digestion, contributes essentially to the solution that is effected: a large quantity of acid is required in this process, a very small quantity of pepsine suffices; nature, sparing in causes, fertile in effects, takes advantage of

what may be held an accident—if there be such a thing in the economy of the universe—to accomplish one of her important laws: a little pepsine is added to the food become acescent in consequence of the moisture and temperature to which it is exposed in the stomach, and it is forthwith dissolved and fitted for assimilation. Ed. M.G.] The mucous membrane of the stomach appears, however, to have a positive faculty of separating acids from the mass of the blood. Solutions of the lactic, phosphoric, butyric, and acetic acids, thrown into the veins of a living animal, are by and by discovered in the stomach; their salts, again, as the tartrate of iron, the butyrate of iron or of magnesia, &c. injected into the veins, are decomposed; their acids appear in the secretion of the stomach, their bases show themselves in the urine. Mineral salts, finally, which are not susceptible of decomposition in the blood, pass unaltered into the gastric juice. It may therefore be assumed as a general thesis, that the mucous membrane of the stomach, in producing the gastric juice, only separates acid principles from the blood which this fluid contains already formed.

To show that the combination of alimentary matters with the gastric juice is an indispensable condition to their becoming true nutriment, these experiments were performed :—

Four healthy dogs had each rather more than half an ounce of distilled water (twenty grammes) mixed with rather more than half a drachm (five gram) of fresh white of egg thrown into the external jugular vein. The urine examined before was not found to contain any albumen; after the experiment it was discovered in every instance to contain this substance. Other four healthy dogs had the same quantity of albumen, raw or boiled, but previously digested in 20 grammes of gastric juice for twelve hours in the water bath at from 100° to 104° F. injected into their jugulars; in no case could the slightest trace of albumen be discovered in the urine either by heat or nitric acid. In like manner two and a half drachms of sugar dissolved in about six drachms of water were thrown into the jugulars of three dogs. The substance was found in the urine unchanged; cane sugar as cane sugar, grape sugar as grape sugar. After an interval of three days, the same quantity of cane sugar which had been previously digested in gastric juice at a temperature of about 104° F. for six hours, was injected into the jugulars of the same animals. In this instance, the urine, carefully analysed, did not yield a trace of sugar.

It is certain, therefore—1st, that sugar and albumen, not previously subjected to the action of gastric juice, are eliminated from the blood unchanged by the kidney; 2dly, that sugar and albumen artificially chymified, *i.e.* digested for a certain time at a suitable temperature in gastric juice, are retained in the blood, and are there decomposed; they are not eliminated until they have undergone combustion, for which they are prepared or fitted by the peculiar molecular action of the gastric juice.—*Gaz. Méd. de Paris*, March 16, 1844.

CULTURE OF THE SUGAR CANE,

AND PRODUCTION OF SUGAR.

Sugar, as an important article of diet, seems to come fairly within our province as medical journalists. M. Casaseca, of the Havana, has just communicated some interesting observations to the Royal Academy of Sciences of Paris, on the chemical composition of the cane that is cultivated around that city. It is a very remarkable fact that, until the year 1839, science was still without any reasonably good analysis of the sugar-cane, when one, extremely satisfactory in all respects, was made public by M. Peligot. It can only be ignorance of the results of M. Peligot's researches that leaves the manufacture of sugar in its pristine state of rudeness and relative unproductiveness. In the British West-India colonies, if a pan, duly concentrated by boiling, produce 26 cwt. of concrete matter, it is thought very well if from this mass 12, 14, at most 16 cwts. of cured sugar are obtained; the other 10 cwts. have flowed out in the shape of molasses. Now *the whole of this molasses*, which, at the present market price of rum, is almost valueless, *has been produced at the expense of the same, or a somewhat greater, weight of perfectly crystallizable sugar*. In the juice of the sugar-cane there are not two forms of saccharine matter, one crystallizable, the other syrupy, as is commonly supposed, it, in fact, *contains no treacle* — nothing but pure sugar, a few salts, a little albumen, and water; and M. Peligot computed that the juice which usually yielded no more than from 6 to 10 per cent. of muscovado sugar, contained in reality from 18 to 19 per cent! If this be so, there is an actual destruction of sugar in the manufacture, of from one-half to two-thirds!

These conclusions have all been borne out, and more than borne out, by the researches of M. Casaseca, who, from a portion of sap as it ran from the crushing mill, obtained these quantities :—

Crystallized sugar	20·94
Water	78·80
Salts	0·14
Organic matters other than sugar .	0·12
	100·00

Here is consequently very nearly 21 per cent. of crystalline sugar, and not a drop of molasses.

It would appear that the variety of cane that is cultivated is by no means a matter of indifference. M. Peligot, from his analysis of the Otaheite cane, estimated the quantity of woody fibre at about 10 per cent. The canna de la tierra of Havannah, M. Casaseca found, on the contrary, to contain as much as 16·4 per cent. of woody fibre. In trying different canes, M. Casaseca found that from 100 of the *crystalline* cane he obtained 65·0 of trash; from the same quantity of the *ribbon* cane, 55 of trash; and from the like quantity of the *Otaheite* cane, no more than 43·5 of trash. If the object of the colonist be to grow *timber* therefore, he will cultivate the canna de la tierra; if he would have sweet sugar-yielding *sap*, he ought to look after the Otaheite cane. If he would make marketable sugar, rather than valueless molasses, he will give up boiling in an open teache, and send forthwith to England for a vacuum pan. His additional profits the first year, if he be a producer to any extent, will more than pay the expense.—*Comptes Rendus*, No. 10; and *Editor Med. Gaz.*

INJURY OF THE OMENTUM—DEATH.

A HUSSAR felt, as he said, a "crack in the breast," as his horse came to the ground after taking a leap. Next day he complained of pain under the short ribs of the left side; he had cough, with bloody expectoration, and swelling as well as pain of the left hypochondrium. The bowels were obstinately confined; the urine scanty and high-coloured; the pulse very small and rapid. Things went on from bad to worse, and the patient died early next morning. On examining the body, a rent in the omentum, to the left side, and one inch and a half long, together with five ounces of bloody effusion within the cavity of the abdomen, were discovered. The lungs appeared quite healthy.—*Dr. Derner, in Casper's Wochenshriyt*, No. 4, 1844.

THE SHADE AND THE SUN.

AT Naples there is a popular proverb, accredited like an article of religious faith, viz. that all diseases come in the shade and are cured in the sun. The porter of the mole, when weary and exhausted, throws himself down, sleeps an hour or two in the sun, and rises again revived and strong; the fisherman, feeling the effects of exposure to the moist air of the night, chilled and indisposed, lays himself in the sun, falls asleep, gets into a hot bath of perspiration, and is well again. The inhabitants of all grades, the aristocracy especially, live as near as possible to the flat roofs of their houses, where they sit for hours, exposed to the full glare of their scorching sun, in a dreamy doze, looking out upon their beautiful bay. The sun, in short, is their panacea, their Æsculapius.—*Carrière*, in *Gaz. Med. de Paris*, No. 14.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

List of Gentlemen admitted Members, April 19.—J. Bloomfield.—R. B. Thompson.—J. Houlton.—J. Brown.—H. J. M'Dougall.—R. Atkinson.—W. Hinds.—F. H. Harris.—T. Watts.—W. F. Footit.—W. G. Wotton.—A. Major.

APOTHECARIES' HALL.

Gentlemen who have received Certificates, April 18.—B. Barrett.—W. C. Small, Ramsgate.—E. Garraway, Faversham, Kent.—T. B. Cowherd, Kendal.—R. B. Yeats, Kirkby Lonsdale.—P. Redfern, Derbyshire.—R. H. Bradley, Kirkby Stephen, Westmoreland.—C. Scaife, Yorkshire.—J. P. Symes, Dorsetshire.—John Gould, Okehampton.—W. H. Rogers, Harlington, near Uxbridge.—W. Locke, Woolwich.—J. C. Parrott, Clapham Common.—E. Pemberton, Nevis, West Indies.

MORTALITY IN THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, April 13.

Dropsy, Cancer, Diseases of Uncertain Seat	93
Diseases of the Brain, Nerves, and Senses..	147
Diseases of Lungs and Organs of Respiration	257
Diseases of the Heart and Blood-vessels	24
Diseases of Stomach, Organs of Digestion,&c.	75
Diseases of the Kidneys, &c.....	6
Childbed.....	4
Paramenia.....	0
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Arthritis.....	0
Rheumatism	4
Diseases of Joints, &c.	1
Carbuncle	0
Phlegmon	0
Ulcer	1
Fistula	1
Diseases of Skin, &c.....	0
Old Age or Natural Decay.....	64
Deaths by Violence, Privation, &c.....	13
Small Pox	21
Measles	22
Scarlatina	31
Hooping Cough	27
Croup	9
Thrush	4
Diarrhœa	3
Dysentery	2
Cholera	0
Influenza.....	6
Ague.....	0
Remittent Fever	1
Typhus	39
Erysipelas	9
Syphilis	1
Hydrophobia.....	0
Causes not specified	3
Deaths from all Causes.....	870

CORRIGENDUM.—In our report of the proceedings of the Medical and Chirurgical Society, p. 93, it was not Mr. Hey of Leeds, but his brother, Mr. Richard Hey of York, who was the author of the paper and the speaker on the occasion.

WILSON & OGILVY, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, MAY 3, 1844.

MORAL TREATMENT OF INSANITY IN BETHLEM HOSPITAL.

To the Editor of the Medical Gazette.

SIR,

THE recent publication of a Report on the Royal Hospitals of Bridewell and Bethlem*, the first that has ever appeared through the long succession of centuries during which these establishments have existed, affords me the grateful opportunity of making a few observations, and of presenting you with an abstract of the publication for insertion in your excellent journal.—I am, sir,

Your obedient servant,

R. WILLIS.

Dover Street, April 8, 1844.

I make bold to avow my want of knowledge of the original cause which led to the conjunction under one board of governors of a house for the correction of criminals, and a house for the treatment of sickness. The prison may possibly have been a graft upon the hospital; or the union may be an evidence of those barbarous times when the sad visitation of insanity was looked on as a crime, when the hapless insane were dealt with as criminals. These times have passed; and I confess I should like to see an amicable separation between Bridewell and Bethlem Hospital

As practitioners of medicine, we are of course rather interested in the hospital than the prison portion of the Report; and it is to this that I desire to call your readers' attention.

Among all the directions in which medical science has made mankind her debtor,—and they are vastly more numerous and far spread than appears to the superficial inquirer,—there is none more worthy of being dwelt on than that which has the treatment of insanity for its object; none in which the genius of the healing art, leading Humanity in either hand, has had more signal triumphs to boast than here. The ample proof of this is stamped upon the pages of this excellent Report, from the perusal of which all must rise more deeply impressed than ever with the feeling that the office of physician is one truly holy, and that the service rendered of old in special temples to the Divinity conceived in one of his noblest attributes, is not yet extinct on earth, but has a true priest in every worthy member of the medical profession.

From the Report, we learn that in the course of the year 1843, 284 patients—109 males, 175 females—were admitted into the Royal Hospital of Bethlem, and that the relative number of cures, progressively on the increase, has been greater in this than in any preceding year: it is as high as 56 per cent. upon the admissions. The advantages of providing employment for the patients has been strongly perceived, and doubtless some considerable share of the greater success of the remedial measures employed must be ascribed to this cause. Besides the ordinary and incidental occupations, such as gardening, white-washing, painting, cleaning the wards, &c. a range of workshops has been added as a means of affording constant and regular occupation to the patients. "The only argument," says the Report, "that can be used against granting employment is, that great risk is incurred in allowing patients the use of dangerous instruments necessary in the manufacture of the articles on which they are employed. This argument would go to the prohibition of all employment whatever, and the deprivation of every article by which injury could be inflicted by the patients, either upon each other, or their attendants. But when it has been found that patients may be safely trusted in the gardens with hoes and spades, in the car-

* General Report of the Royal Hospitals of Bridewell and Bethlem, and of the House of Occupations, for the Year ending 31st December, 1843.

penter's shop with all the implements of that trade, with sledge hammers and rods of iron in the forge, with brooms for sweeping the wards, &c. and that no accident of the most trifling character has occurred, but that, on the contrary, the habits of the patients have been most materially benefited by their gradual restoration to their ordinary occupations, and by attracting their attention to new methods of employment, it may be fairly inferred that the several trades which it is proposed to establish may be carried on, under proper superintendence, not only without increased danger, but with still more extended advantages." It is impossible to doubt but it will.

"On the female side, again, the excellent matron, Mrs. Hunter, to the old list of occupations, has added straw-platting, bonnet-making, shirt-making, lace-making, and fancy work, and with the best effect. The cheerful and spacious apartment recently completed and furnished as a work-room, affords abundant evidence of the industry of the inmates, and of the skill of the superintendent. Not long ago one of the patients presented a pair of very handsome slippers, made entirely by herself, to a noble Earl, whose constant attendance and unwearied attention to the best interests of the Hospital are not more honourable to himself than beneficial to the establishment. Gratified by the pleasure which this present occasioned, she requested permission of another Governor to be allowed to work a pair for him, in return, she said, 'for his kindness and attention to the patients.' It may appear superfluous or unimportant to mention circumstances of this nature; but when it is recollected that a lunatic asylum was once but another name for all that was painful and degrading,—when, even now, it is difficult not to associate with it ideas of sorrow and suffering, of harshness, and perhaps of cruelty,—it is pleasing to be able to record these simple traits."

It is a kind heart and a sound head that guides the pen in such language as this; and the noble Earl in the poor madwoman's slippers received a badge more truly honourable to him as a man than had he won the Garter and the Cross of St. George in the cabinet or the field!

Considerable additions have been made to the amusements of the patients on both sides of the Hospital. "On the male side a library is in the course of formation, and contains a selection of useful and entertaining works, which have been under the charge of a patient as librarian. Chess, draughts, cards, and backgammon, have long been allowed with very beneficial effects. On the female side a pianoforte has been purchased, which is a source of great gratification, not only to those who are able to play, but to the other patients. On the evening of the last Saturday of the year, nearly thirty of the female patients were assembled to celebrate the festive period, and nothing could exceed the order which prevailed, and the pleasure which was then communicated. One of the Governors happening to visit the work-room with the matron on the following Monday, received a full account of the little entertainment from the patients, and was requested to convey to the Governors the expression of their gratitude for this attention to their comforts."

Who shall say now that the minds of the insane are dead, are not alive to many of the best feelings of our nature? A single instance of the beneficial effects of these amusements as remedial means may be mentioned.

"A patient who was brought to the Hospital in a state of extreme violence, on being released from the strait waistcoat in which he was confined, immediately knocked down three attendants, and was with great difficulty placed in his apartment. The next day, although labouring under very great excitement, he was taken into the amusement room; and the effect was very striking. He appeared astonished at seeing a number of persons engaged in reading, at cards, and draughts, and playing at bagatelle; he became calm, joined in the amusements going on, remained a quiet and tractable patient, and was discharged cured while the Report was going through the press."

It was in Bethlem Hospital that the example was set in this country of liberating lunatics from personal restraint, and it is gratifying to see that the restraint system is on the decrease. In 1840, the weekly average number of patients under restraint was $13\frac{4}{5}$; in 1841, it was 9; and in 1842 and 1843, no more than about 3. The attendants, no longer called *keepers*, which connected their office with that of the gaoler, are aroused to increased vigilance by the necessity of closer attention; and living with and among the patients, gradually acquire their confidence, and become the directors of their occupations, and the companions of their amusements. Insane patients are perhaps even peculiarly alive to the painful idea of confinement and coercion; everthing like a parade of locks and bolts, and even of ordinary precautions, which tended to irritate the feelings and destroy the confidence that is found so beneficial between the patients and their guardians, have, therefore, been withdrawn, with the best effect; the wages of the attendants have been raised, their comforts carefully considered, and a class of men as different from the old keepers secured as it is possible to conceive. Nor is everything left to the sense of duty of the attendant: the galleries have all been furnished with night-clocks or tell-tales, by which neglect on the

part of the nurse or attendant in making the round at the proper hours is certainly made known.

Bathing used to be ranked among the medicinal means, and was only used when specially directed by the physicians; but by the new regulations every patient has now a tepid bath once a week, unless forbidden by the physician, and each patient has farther two changes of body linen in the course of the week, instead of one, as formerly. The old hospital uniform dress has been abandoned; instead of bone implements, convalescents, and many others, have now metal knives and forks at their meals, and earthenware plates, instead of the wooden platters and bowls formerly in use. The bedding, too, has been improved, horse hair and wool-mattresses having been ordered, wherever they can be advantageously substituted for the old straw sack. Tea and coffee, with sugar—to which the majority of the patients had been accustomed all their lives—now form part of the ordinary dietary of the hospital, and are felt to be an immense addition. This change, however, has of itself entailed an additional charge on the Hospital of nearly £400 per annum. Sorely and peculiarly as the income tax presses upon medical men, I believe that we should all grant it joyfully to the minister, would he but get over the barbarism of regarding items in the necessary and daily food of the community as articles of luxury, and cease to make them sources of revenue to the exchequer. The sum of £400 would be reduced to £200, were there no discriminating duty upon sugar, and no absurdly high impost upon tea.

The necessity of seeking early for advice in cases of insanity is well known to the profession, and its advantages are illustrated in the Report in the best of all ways —an appeal to the success of the remedial treatment at different periods of the disorder. The chance of recovery is in exact proportion to the shortness of time during which the disease has existed; the probability of effecting a cure of the patient who is received within one month is generally just double that of restoring one who is received within two months from the commencement of the attack. So short an interval as thirty days lessens a man's chance for restoration to himself and society by exactly one half; if he had two chances in the first instance, he has but one in the second. From the Table No. 8, we see that of the entire number of 284 patients, 106 were received within one month; but between one and three months the number is still greater, viz. 108. The great relative disproportion of cures effected in males and females is somewhat startling. Whilst 103 of the 175 female patients are discharged cured within the year; of the 109 male patients, no more than 56 are so discharged. I do not observe this circumstance commented on in the Report, and beg to call the attention of the Governors and Medical Officers particularly to the fact. There is a cause for it, which being inquired into will be discovered, and which, if remediable, will be redressed; if irremediable, it will be known, and knowledge is always light from heaven. The total proportion of cures, and the general sanatory state of the hospital, however, it is most gratifying to observe, have gone on steadily improving. In the middle of the last century, the cures amounted to no more than 33·20 per cent. annually, and the ratio of deaths was as high as 25·43, Last year (1843) the ratio of recoveries reached 56 per cent. and the deaths were only 5·93—say 6 per cent. How soundly the heads should sleep that have been instrumental in bringing about such glorious results! And as a regiment depends for its efficiency on its colonel, adjutant, and doctor, so let me state that an hospital, for its efficiency, depends on its matron, steward, and medical staff, that I may find an opportunity of mentioning the names in connection with the facts above given of Mrs. Hunter and Mr. Nicholls—the intelligent matron, the old and faithful steward.

There is yet another point alluded to in the Report, to which I shall direct attention; it is the admission of pupils to the Wards of Bethlem Hospital, as a school where they may acquire a competent knowledge of the paramount disease of the brain and nervous system — insanity. "The Court," says the Report, "could have conferred no greater boon upon society, than by giving every facility to medical pupils for acquiring a knowledge of this distressing affliction, and of the best methods of treatment." The fee payable to the medical officers by each pupil used to be fifty guineas; it has lately been reduced to twenty guineas for one year, or fifteen guineas for six months. I ought not to advocate, I do not advocate, any curtailment of the poor reward in money which medical men derive from their onerous duties as physicians and surgeons to public hospitals; but twenty, or even fifteen guineas, is far too large a sum—so large that it will render the opportunity now afforded nugatory. I am myself so hostile to the division of the several grades of our profession into mad-doctors, lung-doctors, stomach-doctors, oculists, orthopedists, &c. &c. that I fondly hope the existence of the mad-doctor will one day become matter of history. Restriction or limitation is always injurious to general efficiency, and all true improvement in the treatment of insanity, as in every thing else in medicine, has come from the general physician. Dr. Philip Pinel, the grand reformer in the

department of insanity, practised generally; Dr. Conolly spent most of the best years of his life in general practice as a physician; and the wards of Bethlem have been thrown open to the rising generation of medical men by the active enterprise of a general physician, Dr. Webster, to whom, in conjunction with Mr. Laurie, the world is indebted for the admirable Report which has interested me so much.

Thanking these gentlemen very heartily for the instruction which they have afforded me, and referring your readers to the Report itself for much valuable information, I conclude by wishing the authors life and leisure to write many more annual reports of Bethlem Hospital, such as this which they have now published.

CASE OF INFLAMMATION AND GANGRENOUS ABSCESS OF THE LUNGS,

FOLLOWING A STATE OF PARTIAL ASPHYXIA PRODUCED BY A POISONOUS DOSE OF OPIUM.

By J. D. Heaton,

(For the London Medical Gazette.)

Mary MacCarthy, aged 28, admitted to the hospital of University College, under Dr. Williams, May 1st, 1843. A large, strong-looking woman, with a florid complexion.

Four months ago, on account of some pecuniary distress, she swallowed nearly a wine-glassful of laudanum, with the intention of poisoning herself; she immediately afterwards vomited freely, and experienced little ill effect from the poison.

About a month ago, she again took nearly two ounces of laudanum; this she did not vomit, and she was brought to the hospital the following morning, suffering under the effects of opium. By the use of the stomach-pump, the contents of the stomach were evacuated; and the various means used subsequently, aroused her from the stupefaction into which she had fallen. In a few days, however, symptoms of pneumonia appeared in the right lung, for which she was treated by Dr. Thomson, whose patient she then was. A week afterwards, at her own request, she left the hospital,—the inflammation still existing,—and returned to her own dwelling, in a damp confined situation. At this time, she had a frequent, troublesome cough, and much pain in the right side of the chest; the expectoration had a dirty green colour, and both this and the breath were extremely fœtid. As these symptoms continued, and she found herself getting weaker, and her general health still more declining, she returned to the hospital, and was admitted under Dr. Williams, on the 1st of May, as above mentioned.

Between the time of her discharge and her re-admission, she had noticed the extremely fœtid odour of the sputa expectorated by coughing; she also expectorated some dark green shreds of a solid substance, very fœtid, and apparently, from her description, gangrenous portions of lung.

The following were the symptoms at the time of her admission: pain and tenderness in the right side of the chest; shortness of breath, and a copious expectoration of a greenish, rather viscid and purilaginous matter, of a fœtid smell; great prostration of strength, progressive emaciation; considerable thirst; skin moist; pulse 80, rather feeble; urine natural. Dulness of stroke-sound, and increased vocal resonance on the *right* side of the chest, the breath sound remaining audible anteriorly; near the axilla, the breath sound was loud and tubular, almost cavernous; some crepitation posteriorly. On the *left* side, the respiratory sound was very distinct, almost puerile; posteriorly, there was dulness of stroke-sound, and increased vocal resonance, but without loss of the respiratory murmur.

℞ Tr. Camph. Co. ʒj.; Acid. Nitric. Dil. ♏x.; Acid. Hydrochloric. ♏iij.; Decoct. Senegæ, ℥jss. M. ft. haust. quart. horis sumendus.

Omni mane sumat haust. Sennæ.

Latiri dextro admoveatur Emplast. Cantharid.

May 4th.—Some improvement; cough troublesome; the pain in the chest diminished, but she is unable to procure any sleep.

Horâ somni sumat Morph. Hydrochloric. gr. ss.

6th.—The patient seems more feeble, and the pulse is weaker and more frequent; she continues very restless. There is increased dulness in the lower part of the right lung, and more crepitation.

Adde Haustui quinæ disulph. grs. ij.; lateri dextro applicentur hirudines x.

8th.—There is increasing debility,

and much restlessness; pulse 86, feeble, rather sharp; cough very troublesome; expectoration very fœtid, and more purulent.

Ordered to have beef-tea daily, and three ounces of red wine.

On the 10th, the sinking state of the patient seemed to require that the allowance of wine should be doubled.

On the 11th, she seemed considerably better, having passed a quieter night; the feet and rest of the surface were comfortably warm; cough troublesome; pulse 108, still very feeble.

On the 15th, an unnatural puffiness of the surface was observed over the ribs above the right mamma; the respiratory sound here was loud and tubular. The patient complained of much pain in the right axilla on coughing, or taking a full inspiration; probably from some pleuritic inflammation in this situation.

About this time the dose of quinine was increased to four grains, and a little creasote added to the draught, to correct the fœtor of the breath and expectoration. A nourishing diet was still allowed, varied occasionally to suit her inclination.

On the 20th, there was considerable tenderness over the right mammary region, in which situation the stroke-sound was very resonant, as from emphysema or pneumo-thorax.

At this period, and subsequently, there was evidently increasing debility and emaciation, though without any rapid change from day to day; the pulse gradually became more frequent and feeble. Profuse perspirations, frequently occurring, added to her exhaustion. The frequent cough gave her much distress, and the expectoration continued copious, usually thin and watery, containing dark-coloured flocculent masses.

On the 27th, the stroke-sound in the right back was found perfectly dull; the left back resonant; cavernous rhonchus under the right axilla. The debility was gradually increasing; but otherwise no great change in the symptoms. One day she suffered much from nausea, and vomited a considerable quantity of fluid containing much yellow bile.

On the 2d of June a diarrhœa commenced, which was very troublesome; the perspirations continuing extremely copious. She was reduced to a state of extreme prostration, and was evidently near her death. The respiration short and hurried; the cough very troublesome; the expectoration quite arrested. She died on the 4th.

Inspectio cadaveris, post mortem horas xxiv.—The body much emaciated. No distortion of the chest.

Thorax.—It was attempted to ascertain if any air was contained in the cavity of the pleura, so as to account for the tympanitic character of the stroke-sound over the right chest, but this was not very clearly made out. The left lung was adherent to the walls of the chest by numerous recent pleuritic effusions readily torn through. The upper lobe of this lung had an irregular puckered appearance, resulting from tubercular consolidations of a dark grey colour; at one point, a small cavity was found, evidently of a tubercular origin, though now in progress of cure, containing only some pale cretaceous matter, the lung around being indurated and containing numerous miliary granulations. The lower and posterior parts of the lung were of a dark colour, and much consolidated, in some parts approaching the appearance of inflammatory hepatization; other parts still crepitating when compressed. The tissue generally was not much softened, but in the interior was found a small cavity rather larger than an almond, having irregular walls, of a dark colour, formed by the pulmonary tissue in a softened and apparently gangrenous state, and containing a small quantity of purulent lymph of a bad odour. In the *right lung*, the two layers of the pleura were united anteriorly by recent adhesions; the superficial colour was of a pale leaden hue, very different to that of the opposite lung. Posteriorly the lung was strongly attached to the walls by old adhesions, and in attempting to separate these, the substance of the lung gave way, disclosing a large cavity from which escaped a gush of purulent and venous matter, (not less than four or five ounces) of an extremely offensive smell. Besides this fluid, the cavity contained a mass of dark gangrenous matter, evidently part of the pulmonary tissue; the walls of this excavation, which extended through a great part of the upper and middle lobes, presented a similar sloughy appearance to the separate mass it con-

tained within. Around this were numerous small cavities communicating with it. The lower lobe of the lung presented a deep red appearance, similar to that of the opposite side. At that point posteriorly where the lung adhered so firmly to the walls of the chest, the internal muscles had a pale flabby appearance, and the serous lining was completely destroyed. The heart was free from disease.

The abdominal viscera presented no unusual appearance.

The interest of this case depends on the good illustration which it affords of the pathological fact that a continued state of partial asphyxia, from whatever cause, even though the immediate effects may be removed, produces such a state of congestion of the pulmonary vessels as may lead to very serious inflammation of the lungs. In the present instance, the asphyxia arose from the stupifying effects of a poisonous dose of opium, under which influence the respiratory movements were so far arrested as to produce for some time a state bordering upon asphyxia. Without going into any detail as to the theory of asphyxia, it will be sufficiently clear that when the movements of the lungs cease to be efficiently carried on, the black blood supplied to them fails to become duly aerated, and finds an increasing difficulty in making its way through these organs, and that this difficulty is increased by the feeble action of the heart, through whose nutrient vessels unoxygenated blood now circulates.

The effect of partial asphyxia in producing this state of the lungs is well illustrated by the old experiment of dividing the par vagum in a living animal. When this operation is performed, respiration ceases to be carried on as a reflex action, and the respiratory movements become entirely dependent on volition. Hence these motions are imperfectly effected. They are, however, still carried on, so far as regards the *evident* motions of the chest, though incompletely and laboriously; but there are, probably, other motions of the lungs, of a more intrinsic nature, not at all under the influence of volition, and effected exclusively as a reflex action; these are the contractions and dilatations of the bronchial tubes which the experiments of Dr. Williams, (during the summer of 1840, and which were laid before the meeting of the British Association) sufficiently proved to be contractile, and which probably take place in connection with those of the whole chest. This motion of the tubes, together with similar motions of the larynx equally involuntary, must be cut off when the par vagum is divided or paralysed, and this must prove an additional impediment to the respiratory function. The result of this is, that after death the lungs of the animal experimented on are found in a highly engorged state.

The paralyzing effect of opium on the nerves produces a similar result; but, in this latter case, the voluntary movements are impeded, as well as the involuntary. Asphyxiating gases, and various other causes producing this state in a degree not immediately fatal, if continued in operation long enough to deprive the distended vessels of their tonic contraction, produce congestion of the pulmonary plexus. When recovery from the state of asphyxia is effected, the heart regains its full powers, and by its reaction upon the congested vessels, the congestion is converted into inflammation.

The effect of the more ordinary causes of pneumonia is very similar to this of asphyxia; congestion is first produced, which is converted into inflammation. The continued exposure of the surface to cold, constringes the external vessels, and drives the blood upon the internal organs; if any previous weakness or disease exists in the lungs, such as a deposit of tubercular matter, this organ becomes the seat of the congestion so produced, which the reaction of the heart converts into inflammation.

It is seldom, however, that the pneumonia, arising from asphyxiating causes, presents the characters of acute inflammation. The blood may have become so far stagnated in some parts that reaction cannot be produced, and congestion passes immediately into gangrene. Gangrene is by no means an ordinary termination to inflammation of the lungs. It was the opinion of Laennec that when this organ presents the appearances both of inflammation and of gangrene, it is the latter state which precedes and causes the former. This is now considered to be only occasionally, and not invariably the case. But those instances in which gangrene

results from asphyxiating causes are just those in which this state is most likely to precede, and, by its irritating effects, to give rise to the inflammation in adjacent parts. Chomel has related cases in which gangrene of the lungs has resulted from exposure to asphyxiating gases, in which he supposes that the first or congestive stage of pneumonia has passed immediately into gangrene. It appears not improbable that such was the case in the present instance, for the symptoms were at no time those of *acute* inflammation, which is that form most likely to *terminate* in gangrene. Neither was there any attempt set up to circumscribe the disease; the walls of the cavity were themselves in a state of sphacelus, presenting no definite boundary. The loose tissue of the lungs is not favourable to such a limitation, and the low character of the vascular action was likewise opposed to the effusion of good lymph requisite to this process. The extremities of the vessels leading to the gangrenous part were, however, closed, as was ascertained by examination, and proved by the circumstance that no hæmorrhage took place. The softened, almost purulent state of the muscular walls of the chest at one point, posteriorly, seemed as though an effort were then making to form an opening externally, for the discharge of the pulmonary abscess.

Besides these changes in the lungs, there was a considerable amount of tubercular disease, both of old standing, and in the form of miliary granulations of a recent date. The tuberculous affection, however, was of a slow and chronic character, and such as might not have seriously interfered with health for many years, though it may have served to aggravate the more acute affection hitherto considered.

The physical examinations during life afforded no very satisfactory signs of the amount of disease which existed within. The dulness of stroke-sound on each side, combined with the increased vocal resonance, showed that there was some unnatural condensation of the pulmonary tissue in both lungs; the crepitation heard in the lower part of the right lung, showed that, here at least, this state was connected with an inflammatory action, and the fœtid odour and other characters of the sputa showed that this coexisted with gangrene of some portion. But no signs were obtained conclusive as to the existence of a larger cavity in the right lung. The nature of the circumstances, however, satisfactorily accounted for the absence of these signs. In an ordinary tubercular excavation, so long as it remains completely closed and unconnected with a bronchial tube, by which air may be admitted to the interior, no satisfactory physical signs of its formation are afforded; dulness of stroke-sound alone is produced, which may result from condensation alone. Such was the state of the cavity under consideration; it was filled with fluid, which can have had no free communication with the bronchial tubes, otherwise it would have been discharged; and thus, the conditions requisite for the production of pectoriloquy and gurgling respiration, the usual physical signs of an excavation in the lung, were both absent. As some respiratory murmur was heard anteriorly, over the seat of the abscess, some portion of permeable lung must have intervened between this and the front walls of the chest; but the unusual tympanitic character of the stroke-sound observed in this situation, for some days before death, can only be accounted for on the supposition of some pneumo-thorax here, for the tissue of the lung did not present the appearances of emphysema.

The plan of treatment adopted in this case was locally antiphlogistic, combined with generally tonic and stimulant medicines, and regimen to support the strength, and enable the system, if possible, to throw off the putrid matter contained within the lung. But the symptoms were unfavourable from the beginning; and the extensive disease disclosed after death sufficiently accounts for the fatal result.

REMARKS ON INFLAMMATION.

To the Editor of the Medical Gazette.

SIR,

I HAVE abstained during the last two weeks from sending you any additional remarks upon the doctrines of inflammation as propounded in Dr. Copland's Dictionary of Practical Medicine, in order that he might have an opportunity of answering the arguments which I have advanced in refutation

of the main point of his position; but I have waited in vain. Engaged as Dr. Copland is in an extensive and laborious undertaking, as well as in practice, his time is of great importance, and it should not be heedlessly intruded upon. I am therefore willing to admit that he is not called upon to notice any trifling inaccuracy or inadvertence that may be discovered: but when an error is pointed out of so grave a nature as I conceive that to be which I have mentioned, I humbly submit that he is bound to notice it.

I shall now proceed to show how the error mentioned in my former letter has led to others. In paragraph 152, Dr. Copland says, "If the vascular system were *directly* under the dominion of the cerebro-spinal nervous system, all the functions of circulation, secretion, nutrition, &c., which are subjected to the organic nervous influence, would be liable to continual derangement, from the various impulses of the will and the passions." But does not every one know that these functions are constantly, and at all times, liable to be deranged by the passions? And if, moreover, Dr. C. had properly considered to what the operation of the will is limited, he would have perceived that all these functions may be dependent on the nervous system, without the will being able to interfere with them directly in any possible way. In these few words, therefore, we find both a statement implying a false assumption of facts, and a non sequitur. Dr. Copland also says in the same paragraph, "Excitement of the cerebro-spinal nerves has but little immediate influence upon the capillary circulation, excepting that of the countenance, as in the act of blushing; and then this is only temporary." It is indeed only temporary, but the tinge of colour may often, in any sensitive girl, be seen to spread from the face down the neck and bosom and along the arms even to the fingers' ends. It strikes me that if Dr. Copland could look at this question with unprejudiced eyes, he might see that all the phenomena connected with the visible and perceptible effects of mental emotions take place more readily in the young than in the old, because in them, the relative size of the brain, as compared with the body, is greater, and the whole secernent functions are carried on more rapidly than they are subsequently, when the full stature is completed. We cannot at all understand why this relative difference should so constantly exist, if the cerebro-spinal nervous system has neither art nor part in the secernent function. The mental emotions, of which the effects are more immediately recognizable, are of two kinds, exciting and depressing; neither cause any new action, they either increase or diminish an action which is already established and going on, and is only interrupted or interfered with. The effect of these mental emotions which disturb the secernent function are the *evils* necessarily attendant on the arrangement of the nervous system, but when this subject is better understood it will be found that there is *much more* of good than of evil depending on the disposition of the brain and nerves, although according to the physiology of the present day the *latter only is apparent.*

Dr. Copland concludes the 152d paragraph with a statement which seems to me quite as much against fact as any of the others: he says, "In cases of severe injury to the spinal chord causing paraplegia, the lower extremities are not more liable to inflammation than in health." This I conceive to be against all experience; but, with the other erroneous statements which I have instanced, it springs directly from the original mistake of supposing inflammation to be caused by an exaltation of the nervous function: this opinion being first laid down as undeniable, every fact is forthwith forced into subservience to it.

Dr. Copland, at the end of his article on inflammation, refers to the works of Magendie, Syme, and a series of papers on inflammation, which I had the honour of contributing to the GAZETTE in the early part of 1835. But if Dr. Copland had carefully studied the facts referred to or contained in these writings, particularly the experiments of Mr. Syme, who shows that inflammation is constantly produced by the division of nerves, their functions being thus suspended or destroyed, it is scarcely possible to imagine that he could have fallen into the mistake of supposing the same state to be produced by an exaltation of their function. This is, indeed, so flat a contradiction, that it is not easy to understand how such a mistake can have arisen.

It would hardly be expected, after the mistakes I have instanced, that we should find Dr. Copland arrogating to

himself a peculiar power of discriminating nicely the value of different experiments, and of determining with superior sagacity the relative bearing of each. Yet so it is, as may be seen in paragraph 148, where, after enumerating first, second, and thirdly, of alleged oversights, he says, "But this is not all; the physiological or vital action of these agents has been neglected equally with the chemical action, and even with the changes they produce upon dead animal matter. These experiments abound, moreover, in other sources of fallacy, attributable to the means and aids used in ascertaining the effects, and to the subjects upon which they have been performed. Can it be believed, that all these circumstances, any one of which is sufficient to overturn the conclusions drawn from these experiments, have been neglected?" I do not like to lose this opportunity of recording my own testimony respecting the general accuracy and fidelity with which experimental facts are usually related and detailed. It does, indeed, too often happen that experiments instituted for a particular purpose do not warrant the inferences which have been drawn from them: for example, Vogel sees the red globules in the minute vessels crowd together, and adhere to their sides in the commencement of inflammation, whereas during the normal state they keep a central course and avoid the sides; and this phenomenon he supposes is produced by a change of attraction. In this instance there is no oversight, and the fact is accurately stated; but then the inference has nothing to do with it.

While, however, I thus endeavour to avoid being misled by false inferences, I should not think of withholding all praise and thanks from those to whose persevering industry we owe so much of both. Dr. Copland proceeds in the next paragraph (153) to illustrate what he calls the action of the vessels in inflammation, by referring to healthy phenomena; thus bringing together two states so utterly opposite that they cannot be compared; and so he goes on from one mistake to another, until all is inextricable confusion, in which I shall leave him for the present, remaining,

Your obedient servant,

J. W. Earle.

Cheltenham, April 9, 1844.

CONTRIBUTIONS

TO THE

PHYSIOLOGY OF THE HUMAN OVARY.

By Charles Ritchie, M.D. Glasgow.

(*For the Medical Gazette.*)

[Continued from p. 8.]

Part II.

Section VII.—*Ovaries in individuals who had had children, but were afterwards menstruating.*

1. Mrs. W. aged 40 years: mother of six children, all of some age. Was menstruating six days before death. Inner surface of the uterus, as far down as its cervix, beautifully injected with thickly-set blood-vessels, arranged in circular arches, or rings, connected with each other in a kind of arborescent form, and covered by a thick layer of transparent mucus, interspersed with a few small clots of blood. Fallopian tubes empty, and small-looking, without either the usual mucus, or any blood. Vagina very red and vascular. Ovaries smaller than average. *Right:* No recent opening, but one lesion of surface, of about the size of a barley-corn, which opened into an oblong cyst, of size of a small pea, having in its centre a globular portion of colourless fibrin, and its walls of a rhubarb colour. *Left* ovary generally smooth, without any new opening on surface. One capillary-sized opening, of long standing, a small unruptured Graafian vesicle projecting, denuded of peritoneum in about two-thirds of its whole superfices, from surface of gland; also, another similar vesicle, over which a portion of the peritoneum was thinned, of size of a split pea, and two linear cicatrices, were what presented externally; and internally were no more than two small Graafian vesicles observable, and three cavities, with pulpy, somewhat yellowish walls, in which, although the blood was more or les absorbed, no corrugation of their coats had happened.

2. —— ——, about 40 years: one child early in life. Menstruating recently before death; her chemise still stained. Arteries of uterus injected with carmine in turpentine, and veins with indigo. No note of state of uterine cavity retained. Ovaries very deeply and extensively fissured. On

one a slit was observed in the peritoneal coat, nearly an eighth of an inch in length, permitting a hog's bristle to pass readily, by a minute circular opening, into a distended Graafian vesicle, which was found to be of an oval shape, and filled with a fresh florid coagulum of blood. The coats of this vesicle could not be separated. In the other ovary, there was a mamillated eminence, of the size of a small raisin, and of a dark colour, having a small linear division of the peritoneal coat, and a minute circular opening of the coats of the vesicle, which was found distended with a coagulum of an inky dark colour externally, but florid towards its centre. Coats of this vesicle were separated, although with difficulty, the inner being a mere pellicle, deeply dyed with the black matter of the coagulum, and the other also of very delicate structure, but much injected with vessels, some of which appeared to have been penetrated by the injection.

3. Mrs.——, seven children, youngest three years of age: menstruated four weeks before death. Several yellow bodies in various states; some of them exhibiting very distinctly an inner transparent pellicle, marbled with an inky pigment, penetrated by an opening from the surface, and collected into folds or plaits, running in a serrated manner into corresponding recesses in a more external coat, which was opaque, of a yellow colour, and five or six lines thicker than the inner. In another of these, apparently of longer standing, the outer coat separated easily from the stroma, and its cavity was contracted as if from corrugation.

4. Mrs. ——, aged 46 years, mother of six children, the youngest four years of age: menstruated three weeks before death.

One ovary presented four considerable cicatrices, which appeared as if they had occurred in speedy succession; the older ones without vessels, the peritoneal coat being simply dyed black, while that which seemed the most recent was still surrounded by congested red vessels. This scar was about one-fourth of an inch in length, and about a line in breadth, and had behind it an elliptical cyst filled with intensely black blood. The walls of this cyst were somewhat thicker than thick post paper, of a light yellow or ochre colour, beautifully convoluted on its external aspect, and having vascular striæ dipping into its periphery from the substance of the ovary, while its inner edge presented also a serrated appearance, as if from minute and delicate duplications of the internal surface on itself. Corresponding to the other scars were two cysts, exactly similar to that described, except that the central clot had been reduced to a black line between the yellow convolutions; and in the third was a clot without any yellow envelope.

Other ovary had two scars with dark stains, the largest corresponding with a cyst of the size of a pea, the walls of which consisted of a yellow fatty matter deposited between two delicate membranes, the outer and densest presenting an exquisitely perfect brain-like aspect, and the inner, which was very delicate, being deeply stained with black blood. On removing this blood away from the inner surface, the latter exhibited something of the aspect of an unhealthy and slightly elevated ulcer, an appearance which was produced from the elevation of the internal pellicle by what looked like a soft, dirty-white, pasty matter, but which, on dividing the pellicle by slight scratches of the lancet, was found to be a layer of whitish-yellow granular matter, lying on the inner aspect of the external membrane. A black longitudinal line corresponded, internally, with the situation of the external cicatrix.

5. Mrs. M., aged 41, mother of seven children, youngest six years of age: menses present fourteen days before death. Arteries of uterus and ovaries injected with red size. Inner surface of uterus deeply painted with minute vessels, into which the injection had run; and at one point these were seen to shoot out at right angles from the uterine surface, like villi. The ovaries were occupied by several cerebriform cysts, two of which still communicated externally by foramina; and in one of these the yellow matter was intersected by numerous striæ of a red colour, which were persistent on pressure, as if injected vessels.

6. Mrs. M'——, aged 35, mother of six children, youngest four years of age: menstruated a few days before death. Arteries injected with red wax. Uterine cavity, especially at cornua, of a deep dark colour, from the presence

of a lining of vascular jelly. Interior of ovaries, into which the wax injection did not penetrate, occupied by numerous "white bodies," of small size, some of which still contained vestiges of blood, while, externally, they looked like mere points of adipose matter; and, corresponding to a large and recent opening in the peritoneal surface of one of the ovaries, was a cyst of the size of a large boiled garden pea, full of dark blood, but having some of its fibrin completely deprived of colouring matter. This cyst, which was of the ordinary light fawn colour, and serrated or fringed appearance of the cephaloid bodies, was divisible into two coats, the inner surface of the exterior having the granular-coloured substance deposited on it in minute points or granules, which, when viewed in a bright light, resembled shining cellular or adipose tissue.

7. Mrs. C., aged 35 years, mother of three children, youngest three years of age: menses present a week before death. No opening on surface of ovaries, and no recent scar. Interior of one occupied by greatly enlarged and very vascular distended Graafian vesicles. Only two white bodies in glands.

8. Mrs. S., aged 35 years, mother of two children. Ovaries large. One marked with various smooth old cicatrices covering corpora cephaloidea and corpora lutea of various sizes, from that of a hemp-seed to that of a pin-head, and with one ecchymosed or vascular spot, corresponding to a distended Graafian vesicle which had reached the surface.

The other ovary exhibited six or seven more recent scars, one of which was very vascular, and still patent, and led into a cyst of the bulk of a garden pea, filled with a florid coagulum: its walls of the thickness of sheep-skin, of a bright yellow colour, beautifully convoluted, and having a strong resemblance, when viewed from within, to highly congested brain. On rubbing the interior of the cyst, even with the edge of a lancet, no lesion, cognizable with a magnifier, was produced, although it was not found possible to demonstrate an inner membrane. Externally, the cyst was easily dissected from the ovary, and displayed a thin but very vascular membrane, which, on boiling, could be separated from a more external investment.

9. —— ——, aged 39 years. Four children, eighteen, sixteen, twelve, and six years of age. Menses present two weeks before death. Both tubes connected with ovaries by old adhesions, and one impervious, and its extremity enlarged into a sac of the size of a plum.

One ovary perforated by a hole leading into a cyst of size of a hazel-nut, its inner surface of a deep black colour, and containing a solid clot, externally of a coal black, and internally of a rose colour. In the same ovary were—1st, a discharged follicle of size of a horse-bean, without any coagulum, but having its inner membrane dyed black, and its outer yellow and beginning to contract; 2d, another in which this contraction was farther advanced, the inner membrane black, and the outer becoming white, cartilaginous-looking, and corrugated; 3d, three other similar bodies of smaller size from increasing contraction, yellowish externally, black internally, and coats of some thickness, and puckered up into wrinkles.

The *second ovary* also contained two large membranous cysts, in one of which was a black solid coagulum, and scattered throughout the gland were four small, empty, corrugated, corpora albida, yellowish white externally, black internally, with considerable thickness and elasticity of their coats.

10. —— ——, aged 40. Five children, youngest five years of age.

One ovary marked by two elevated dark coloured vesicles of size each of a pea, filled with black coagula, but without any discernible external opening. The walls were of brain-looking matter, but neither an inner nor an outer membrane could be demonstrated, except in one.

Other ovary contained one white body, small, and distinctly hollow, but very attenuated in its coats.

11. Mrs. M——, aged 35. Three children, youngest five years of age. Menses present two weeks before death. No opening into either ovary, but in one, subjacent to an old cicatrix, was a cyst, in which was a partly melanotic, partly white and fibrinous clot, of about the size of a raisin, the cyst being capable of holding one a good deal larger. The inner surface of this cyst was not corrugated, but lined with a smooth, tenacious membrane, of about the thickness of writing paper; in some

places dyed of a reddish yellow, and in others of a jet black. External to this was another envelope of a red tissue, but much less tenacious than the former, and beyond this was a third distinct covering of similar structure.

In the *other ovary* there were two yellow convoluted bodies, and two large cysts containing black blood, one of which, as large as a common nut, had its coagulum nearly absorbed; but its dark dyed inner surface smooth, without any diminution of size, corresponding to lessened bulk of coagulum. Walls divisible, as was supposed, into two thin membranes, the inner appearing like a cobweb when viewed by transmitted light, and not distinguishable from other when examined otherwise.

12. Widow B——, aged 38 years. Four children, youngest two years of age. Menses regular.

One ovary contained four white bodies and a cyst, the inner surface of which was covered by an ash-coloured pigment, which could easily be scraped off, leaving inner surface of vesicle, which was vascular, clean, without any distinguishable breach of its substance, unless it was, that at one or two points it was, as seen by the magnifier, elevated into very minute fungiform projections.

The *other ovary* was gathered at one part into a mamillated tumor, having the peritoneum much injected with minute florid vessels, under which an enlarged Graafian vesicle was found, and the gland was occupied also by four white bodies and one bright yellow cyst, on rubbing the inner surface of which, a semifluid pasty substance, giving colour to the cyst, could be detached, exposing the inner highly vascular surface of the cyst, stained in several places with the yellow matter, but covered over with numerous minute, slightly raised, and florid granulations, or projecting blood-vessels.

SECTION VIII.—*Ovaries in women who had had children, and in whom menstruation, re-established, had been arrested by disease.*

1. Mrs. B——, aged 30 years. One child. Death from phthisis.

Surface of *ovaries* occupied by transparent miliary-sized vesicles, some of which were protruded from the peritoneal coat to nearly their whole extent. Interior of each ovary contained several white bodies, and one of them a vesicle filled with a melanotic coagulum, which although, judging from the minute size of the cicatrix of what had been its external opening, of considerable standing, had undergone little absorption.

2. Mrs. M——, aged 43. Had one child, and several abortions. Delicate health and amenorrhœa for two years. Both ovaries of good size, with several faint scars, interspersed with small vascular elevations of the peritoneal surface. Internal structure a vascular pulp, oozing out fluid from numerous capillary sized points, and sprinkled with vesicles, visible only with a magnifier, and having extremely delicate coats. No white, yellow, or other body visible.

3. —— ——, said to be aged 50 years, but asserting that she had menstruated four months before death, which arose from dropsy.

One ovary had traces of several old scars, and various spots of a scarlet and one of a purple colour, on its surface, the latter corresponding internally with a vesicle filled with fluid blood: ovary contained several well-marked hollow white bodies, and some very small-sized yellow ones, but no unbroken vesicle was observable by naked eye.

Other ovary had some similar scars and purple spots on surface, and internally several corpora lutea, or vesicles with thin coats dyed yellow, and their inner surface still smeared with blood. No unbroken vesicles.

4. —— Hill, aged 25. A prostitute, who was said to have had several abortions. Uterus small and thin, its cavity obliterated, except at one cornu. Orifice large and patent. Ovaries enveloped in broad ligaments and adventitious membrane, on the surface of which were various cysts, having a resemblance to extruded Graafian vesicles. Interior of glands contained no yellow or cephaloid, but a number of white bodies, some unbroken vesicles, and a few bloody cysts, in one of which the coagulum was as large as a pea, very soft, of a snuff brown colour; and the coats of the vesicle were deeply stained, but without any thickening or deposit.

SECTION IX.—*Ovaries in individuals who had had children, and had ceased to menstruate from age.*

1. —— ——, aged 50 years. Mother of four children. Uterus healthy.

One ovary size of a dried horse-bean, much corrugated, with inner structure solid, dry, and containing two cream-white bodies, but no vesicles.

Other ovary as large as a kidney bean, and containing an inky-coloured empty vesicle (corpus nigrum). One white body, but no unbroken vesicles.

2. Widow C——, aged about 54. Mother of a large family.

Left ovary indented with numerous fissures, and one unbroken Graafian vesicle, with vascular coats. Internally there was a cyst of size of a dried pea, of a very deep yellow colour, and having a dark-coloured pellicular lining, as if of inner membrane slightly dyed black; also two very distinct hollow and very white bodies.

Right ovary similarly indented with the left, and at one point particularly, where the peritoneal coat was still of a black colour, the depression was found to cover a cerebriform cyst of a linear shape, traversed by a melanotic line, and coated with an inner membrane. Ovary also contained four white bodies, but no unchanged vesicles.

3. Mrs. S——, aged 58. One child, about twenty years of age. Ovaries much denticulated by fissures, and on surface of right ovary was a vesicle of size of a pea, filled with a transparent yellow fluid. Internally were two corpora nigra, and some white, but no cephaloid, or yellow bodies, or vesicles.

3 *a*. —— ——, a woman, upwards of sixty years of age, who had had a numerous family. Vagina large and smooth. Os uteri wide, more than an inch in length, its edges hard and denticulated, but without ulceration. A small flattened polypus hung from the situation of the Nabothian follicles. Tubes impervious at uterine extremities. Ovaries strongly fissured, and of the shape and nearly the size seen in children, and having a delicate vesicle, of the bulk of a pin-head, extruded from the surface of the one, and a minute copper-coloured punctum in the other. Interior of each consisted of a succulent pulp, which communicated to the finger the impression of being formed of numerous very minute grains, and, when examined with a magnifier, some of these were ascertained to be vesicular, although of the most fragile structure, and to be the source, along, as was supposed, with a multitude which could not be so demonstrated, of a copious oozing of fluid which issued from the cut surfaces of the glands. There were also two well-formed and vascular, but delicate, Graafian vesicles, of the size each of a millet-seed, observed in the sessile edge of one of the ovaries.

4. Mrs. S——, aged 64. Mother of four children, youngest twenty-four years of age. A very healthy woman, who died of fever. Ovaries much atrophied, and consisting almost wholly of peritoneum, imbedded in which were four hollow white bodies, one as large as a pea. On the surface of the ovaries, and in the broad ligaments adjacent, were numerous vesicles of different sizes; those nearest ovaries arranged in clusters; some of the size of millet seeds, and transparent; others larger and opaque; and some of those which were furthest removed from the ovaries, were solid, and consisted of a stony matter, which, on cutting the membranous capsular investment, was easily enucleated.

5. —— ——, aged 75. Os uteri enlarged and fissured, as if it had been once gravid. Ovaries attenuated, but contained, the one six or eight, and the other nine, small-sized corpora albida, and a very succulent and vascular pulp, oozing out fluid profusely, and having an indistinct appearance with a common magnifier of containing numerous small sized and very fragile vesicles. Fallopian tubes were impervious near to the uterus. The surface of one ovary was studded with numerous eyes, or very minute but distinct vesicles, like ovisacs, some of which had given way, and left patent pores, precisely as in the other non-menstruating periods of life. There were two or three large vesicles in the broad ligament, from which slender pedicles could be traced connecting them with the ovary.

6. Preparation of Dr. Paterson's, Anderson's Institution. Uterus and appendages of a woman aged 103 years, and the mother of several children.

One ovary reduced to size of a boiled garden pea, and the other smaller; one of them having one or two triangular, and the other several very distinct punctuated cicatrices on surface. Inter-

nal structure of glands a homogeneous pulp, but gathered into a solid tissue at apices, and with some indistinct indication of a vesicle.

Air was made to pass with difficulty along one tube from the uterus to the pavillon; but on some subsequent attempts this could not be repeated, and in the other tube failed altogether, the obstruction in both being at the uterine extremity of the tube, near to its termination.

[To be continued.]

DR. RAMSBOTHAM'S REPORT ON THE ROYAL MATERNITY CHARITY.

To the Editor of the Medical Gazette.

Sir,

You did me the honour to publish, for four successive years, a statistical summary of the obstetric cases which occurred in the Eastern district of the Royal Maternity Charity, under my superintendence. Engagements, which pressed heavily on me, have prevented my forwarding these accounts to you since the year 1831; but, as I consider such documents valuable additions to our medical information, I will, with your leave, resume them now, and supply the particulars from time to time, down to the present date. I should mention that there are two other districts in this charity, a western, and a central one, each under the care of a separate physician; the statistics of which are not included in the subsequent reports.

I am, sir,
Your obedient servant,
Francis H. Ramsbotham, M.D.

14, New Broad Street,
April 17th, 1844.

During the year 1832, there were delivered in the Eastern District of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham—

2344 *women,—Of which cases*

33 were twins—one in about every 71 cases: of these in 18 cases both heads presented; in 10 the presentations were head and breech, or inferior extremities; in 3 both were breech, or inferior extremities; and in 2 one presented with the head, and the other transversely. In 11 of these cases the children were both boys; in 11 both girls; and in 11 one girl and one boy.

1197 children were males.

1180 children were females.

2320 were presentations of some part of the head; of which 8 were face presentations—one in about every 297 births; and one was an ear presentation.

51 were presentations of the breech, or some part of the lower extremities—about one in every 46¾ births; of these 16 were twins.

6 were transverse presentations—about one in every 396 children: of these, two were each a twin; one at 7 months was expelled doubled, or by what is called the "spontaneous evolution," while I was present; another at 7 months, *turned;* the other four were at full time; and in all the operation of version was performed.

In 2 the placenta was entirely, and in 1 partially, implanted over the os uteri—one in every 781⅓ cases. In the instances where the os uteri was completely closed by the placenta the children were *turned;* both women had lost a large quantity of blood before the operation was performed, and one died in three days from the effects of the hæmorrhage. Where the placenta was partially over the mouth the membranes were ruptured, the flooding ceased immediately, and the fœtus was expelled in five hours. In all these cases the children were born dead.

11 were complicated with dangerous hæmorrhage before delivery, *not* the result of placental presentation—about one in every 213 cases. All these children were born naturally, some time after the membranes were artificially broken—6 living, 5 dead; of these latter 5, three were premature; and one of them was a footling presentation.

In twenty-five cases the placenta was retained within the uterus, either by atony or irregular contraction of the uterine fibres, or by morbid adhesion between the placental and the uterine surfaces; so as to require the introduction of the hand for the purpose of removal—one in about every 94 cases. With all these there was more or less hæmorrhage: one of them was a twin case; the woman died on the fifth day after delivery from the effects of the loss of blood: another was after craniotomy had been per-

formed; the woman died in a week from hysteritis. One woman was in the last stage of Asiatic cholera when she was taken in labour; the child was expelled dead; the placenta was retained by inertia, and the woman died soon after its extraction. Two were premature deliveries; in one of them labour had been artificially induced, and the child was dead. One patient had a slight attack of phlegmasia dolens after delivery.

5 were complicated with alarming hæmorrhage after the natural expulsion of the placenta—about one in every 469 deliveries; two of these women died—one within an hour, the other three or four hours after. The latter case was a breech presentation.

2 women were delivered by craniotomy—one in every 1172 cases. In both these instances the pelvis was considerably narrowed in the conjugate diameter at the brim; one was a first labour. I have induced labour prematurely for this woman five or six times since. The other was a fifth child: I delivered her of her first by craniotomy in November 1825. Since then she had had one living, and two dead children, born naturally, after many hours of severe labour. When I saw her the funis was prolapsed, and the arteries had ceased to pulsate. I had great difficulty in extracting. The placenta was firmly adherent to the uterus, and required much effort to separate it; there was also considerable hæmorrhage. On the third day she was attacked with hysteritis, and died in a week from the date of delivery.

2 were delivered by the long forceps—one in every 1172 cases; they were both first labours: the pelvis in both cases was slightly distorted at the brim, with the principal part of the head above it. In one case the left ear could just be touched behind, or rather above, the pubes; in the other, neither ear could be felt. Both women did well; both children were born living; but one survived its birth only a short time. In one case I was obliged to remove the placenta from the uterus by the introduction of the hand, in consequence of irregular contraction around the mass.

One was complicated with true puerperal convulsions, which came on ten days after delivery. The woman suffered five or six fits within three hours, and was comatose: she was bled and purged freely, and the next day was quite well. It is very unusual for convulsions to occur so long after delivery; and I suspect this woman had been drinking.

In 4, premature labour was induced—one in every 586 cases; in three, by the use of ergot, without any other means having been had recourse to: in each of these cases the pelvis was contracted in its dimensions. The time chosen was between the seventh and eighth month of pregnancy; two of the children were born dead—the other alive; but ten hours after its birth it was seized with convulsions, of which it died. In the other case the patient was suffering under a malignant and fungoid tumor, situated on the right buttock, considerably larger than an orange, and increasing rapidly in size. It was her seventh pregnancy. Upon consultation held, it was agreed that the tumor must be removed; that to do so during pregnancy would be more than usually hazardous; and that if she were allowed to go to her full time, the probability was that the tumor would by that time have acquired such a magnitude as to render the operation very formidable. I therefore punctured the membranes when she was seven months advanced, and the child was born living. In twenty-four days she was received into the London Hospital, and the next day the tumor was removed; it was attached to the fascia of the gluteus. In eleven weeks she was dismissed well.

13 women died within the puerperal month, or from puerperal causes—being about one in every $180\frac{1}{3}$ cases; 10, however, only as a consequence of labour, or one in about every $234\frac{1}{2}$ cases; for two died of cholera, at that time raging, and one of chronic pulmonary disease.

2287 children were born living.

89 were still-born—being about one in every 25 births.

Of the Deaths,

1 was on the third day after delivery, with violent vomiting and purging; the patient having, on the previous days, taken meat, porter, and brandy and water.

3 from peritonitis; one on the fifth day after delivery of twins; one on the ninth; and one on the fourteenth day.

4 from the effects of hæmorrhage: one three hours after delivery under a placental presentation; one a few hours after the natural expulsion of the placenta; one in an hour after delivery of twins—the labour had been lingering; and one on the fifth day, there having been an adherent placenta. This was also a twin case.

1 of hysteritis a week after delivery by craniotomy; this case was also complicated by an adherent placenta.

1 suddenly, on the eighth day after delivery: a very careful examination threw no light on the cause of death.

2 from cholera; one immediately, and the other two hours after delivery.

1 from chronic pulmonary disease.

Of the still-born children,

28 were premature.

13 were putrid, at full time, or nearly so.

6 were breech presentations, at full time, or nearly so.

1 was a transverse presentation.

2 were delivered by craniotomy.

2 were under an entire placental presentation.

1 was under a partial placental presentation.

5 were after dangerous accidental hæmorrhage.

5 were under lingering labour.

1 was monstrous.

With 2, premature labour was induced.

With 4, the funis prolapsed by the side of the head.

With 4, the funis prolapsed by the side of the breech.

With 2, the mothers were dying of cholera.

13 were at full time, or nearly so; head presenting, not putrid, nor delivered by art.

STATISTICS OF MIDWIFERY.

CASES IN PRIVATE PRACTICE.

To the Editor of the Medical Gazette.

Sir,

The late Dr. David D. Davis, in his "Elements of Operative Midwifery," says: "Of all the questions that may occur during a deliberate consideration of this subject, none can exceed in importance that of the average frequency with which we should appeal to the instrumental resources of our art. I am sorry to say, that we are not in possession of sufficient documentary evidence to enable us to decide this point; whilst the evidence we have is of so unsatisfactory and conflicting a nature as to afford us but very slender materials for useful practical induction."

Dr. Davis concludes his references and his reasonings on this grave question with the following passage:—

"Upon the whole, therefore, I am much inclined to the opinion, that it cannot be absolutely necessary to have recourse to the use of the forceps or the lever more frequently than once in three hundred, or at most in two hundred and fifty cases, in order to insure for puerperal women the greatest possible advantages attainable from the employment of these obstetric powers."

In furtherance of the important object which Dr. Davis had in view, I cannot resist the temptation, through the medium of your valuable journal, of calling the attention of the profession at large, more particularly of accoucheurs, to the following statement of facts:—

My uncle and partner, the late Dr. Jarvis, was a great enemy to instrumental aid in midwifery cases, averring "that *nine times out of ten* the necessity might be avoided by prudence and by patience."

Dr. Jarvis commenced his medical career in Margate, as a general practitioner, on the 1st of January, 1788, from which time, to the 1st of January, 1816 (twenty-eight years), he attended eight hundred and ten labours, of which *one* (the seventh) was a triplet case, and *seven* were twin cases—one in one hundred and fifteen. I have no record of the small number of times Dr. Jarvis used the forceps, or the vectis, or had recourse to turning; but it is certain that he never lost but one midwifery case—a Mrs. C., from hæmorrhage, on the 12th of June, 1815, the day after her delivery.

From the 1st of January, 1816, to the 1st of January, 1844 (another twenty-eight years), in conjunction with Dr. Jarvis to the 1st of January, 1827, and with the aid of a visiting assistant from that day, 1349 labours were attended in my own practice, of which *twelve* were twin cases (one in one hundred and twelve), *three* were forceps cases, *two* were

vectis cases, and *nine* were "turning" cases, one of which, a Mrs. B., died from hæmorrhage, on the 21st of July, 1819, two hours after her delivery. This is the only midwifery case I have ever lost.

Thus, from the 1st of January, 1788, to the 1st of January, 1844 (fifty-six years), two thousand one hundred and fifty-nine women have been delivered, (with only two deaths) of two thousand, one hundred and eighty children (males, 1136—females, 1044); and thus, of the last thirteen hundred and forty-nine labours, three, and *three only*, required the use of the forceps, being rather less than *one in four hundred and forty-nine.*

I am, sir,
Your obedient servant,
JOSHUA WADDINGTON, M.R.C.S.
Consult. Surgeon to Royal Sea-Bathing Infirmary.

Marine Terrace, Margate,
April 17, 1844.

RECORD OF CASES.

By THOMAS MAYO, M.D. F.R.S.
Physician to the Infirmary of St. Marylebone.

(For the Medical Gazette.)

[Continued from p. 73.]

Ileus.

CASES of ileus attended by stercoraceous vomiting, yet terminating favourably, are uncommon. On this account, as well as for its other merits, the paper by Sir George Lefevre, read at the Med. Chirur. Society, on the 26th of March, was valuable. Regarding the case there pourtrayed, therapeutically, we may observe, that leeches, the internal use of hydrocyanic acid, and doses of croton oil, were efficacious in it; that opiates were administered without benefit.

The following unsuccessful case of similar obstruction, which occurred at the Marylebone Infirmary in 1841, may in some points of treatment be contrasted with this: at any rate the juxtaposition of unusual cases is advantageous. Besides, the case, which I shall now record, if it cannot suggest effective treatment during its course, is instructive in its autopsy.

H. Dunn, æt. 29, of a thin muscular frame, reported of intemperate habits, was admitted May 10th, 1841, as labouring under obstinate constipation and pain of the abdomen. He stated that on three former occasions he has suffered similarly. He was seen by me at 8 P.M., described as having had no motion for four previous days, but as having passed a little fæcal matter that morning with an Enema Terebinthinæ. He had severe griping pains, but the abdomen was not tender; his pulse was quick, sharp, and rather hard; his breathing excited in the lower lobe of the left lung anteriorly, where he complained of pain from deep inspiration. Hydrarg. Chlorid. gr. iij. had been given him, and Misturæ Magnesiæ c. Magnesiæ Sulphat. ʒiss. sextis, had been directed. I ordered that he should be cupped ad ʒxij. at the painful point of the thorax.

11th, 2 P.M.—Small watery evacuation. Breathing completely relieved; pulse softened. Tongue dry, brown, coated.

Ol. Croton. ℥j.; Ext. Colocynth. Co. gr. x. in pil. ij. divis statim. Enema Terebinthinæ vespere.

12th, 1 P.M.—Severe griping pain had ensued last night on the above medicines, which was appeased by a grain of opium, and then Ext. Colocynth. Co. gr. x. had been repeated with Olei Crotonis, ℥ij. Some sleep had been obtained in the course of the night, and the griping is now less severe; but no evacuation had been obtained. The urine, however, was plentiful; the tongue less dry, though not less coated and brown; the pulse soft. Nausea was now first complained of. The abdomen was swelled and flatulent, but with little tenderness. He lies on his back with his knees raised. I directed Elaterii, gr. iij. as a suppository, to be followed by a warm bath, and at 5 P.M. I found that one small hard motion had resulted. I then directed Hydrarg. Chlorid. gr. x. tertiâ quâque horâ ad 4tam vicem; of which, it may be observed, three doses were taken; good beef-tea, and brandy and water, were allowed.

13th, 8 A.M.—During the night I found stercoraceous vomiting had occurred, to the extent of three potfuls! of loose, lumpy, dark fæcal matter, of an olive colour, with great relief of pain and tympanitic distension, but extreme prostration of strength. Pulse very feeble; skin cold and clammy; no nausea at present; extreme restlessness; he had passed a sleepless night.

Sumat. Hydrarg. Chlorid. gr. iv.; Opii, gr. ij. 4tis ad 3tam vicem, si opus sit;

the object being to obtain rest without increase of constipation. Strong beef tea, in enema or by the mouth, was ordered.

1 P.M. — He was less restless; no farther vomiting; his pulse, after the first dose of calomel and opium, had become stronger and more distinct—84 beats in the minute; he had turned on his side; and hiccup, which existed in the morning, had ceased. He takes brandy and water. Occasional griping; generally little suffering; tongue moist; abdomen less tumid; urine plentiful; mind collected.

7 P.M.—He has taken three doses of the pills, and his bowels have acted loosely with a broth enema; no sickness. He is anxious to obtain sleep.

Sumat. h. s. Hydrarg. Chlorid. gr. iij.; Mist. Camphoræ, ℥j.; Tinctura Opii, ♏xl.

He slept well through the night, and died suddenly at 7 o'clock the next morning, choked apparently by excessive fecal vomiting, which occurred suddenly during his sleep.

With great difficulty we obtained leave to make a hasty examination of the abdomen, but neither of the thorax nor the brain. The rugæ of the stomach and duodenum were very large, and highly injected with blood, as also, in a lesser degree, were the intestines generally. The cæcum very large, containing some fecal matter similar to that rejected by vomiting, of which there was a large quantity also in the colon; this intestine was large. The ileo-colic valve healthy; no ulceration and no stricture until we arrived at the rectum, of which about ten inches were so constricted as scarcely to admit a quill; its coats otherwise normal, and of a very white colour. The above were the only morbid appearances of the viscera of the abdomen.

Now, in reviewing the treatment of this case, I may observe—1st, That the quantity of blood obtained from cupping on the thorax would have been more probably beneficial if taken by leeches spread over the abdomen, as in Sir George Lefevre's case. For the mucous membrane of the intestines was highly injected with blood; and our exploration of the thorax gave us no reason to presume inflammation in that quarter. It is likely that the patient's pain in respiration was connected with the descent of the diaphragm, and action of abdominal muscles on an inflamed intestinal canal. Large depletion would have been ill borne, as there was much depression of power; indeed, the constipation itself had no doubt lasted much longer than the time mentioned by the patient.

2dly, We may observe that the introduction of bougies into the rectum is indicated, in this case, by the seat of the stricture, and might have relieved it; a tendency to downward evacuation having been, indeed, established by the other means employed, before the accidental termination of the case.

In the following case, of which I have but slight memoranda, a more successful termination was obtained, also by a very accidental circumstance apparently removing that obstruction on which stercoraceous vomiting had depended.

I saw a lady, in the autumn of 1842, in consultation with Dr. Watson, Dr. Ashburner, and Mr. Arnott, who had laboured under acute symptoms of ileus, including fecal vomiting, for several days. She was justly considered by those gentlemen in great danger. She was aged; her visage was contracted and sunken; her tongue brown and dry; pulse feeble; her general appearance indicated restlessness and distress; and the curative means employed—calomel, and active aperients—had been ineffectual, though applied earnestly and skilfully. A complete examination was now again made of the abdomen, *with much pressure of it in various parts*, and a plan for the prosecution of the case laid down. In the afternoon of the same day, Dr. Ashburner called on me, and informed me that after our leaving her the patient had said that the pressure made had moved something, which had, as it were, descended through the bowels; in fact, she had, in the course of a short time, expelled an oval calculous concretion, about two inches long, with entire, and, as it proved, permanent relief of all her symptoms.

In a fatal case of ileus, which occurred to Dr. Abercromby, he gives the following post-mortem phenomena: —"The upper half of the small intestine was distended and inflamed, with considerable exudation. The lower half was collapsed, empty, and of a healthy appearance. At the place

where the distension ceased, there was found a large biliary calculus, four inches in its larger circumference, and three and a half in its smaller. The common duct was enlarged, so as easily to admit a finger."*

[To be continued.]

CASES OF DIABETES MELLITUS:

WITH PRECISE OBSERVATIONS CONCERNING THE INFLUENCE OF ANIMAL DIET UPON THE URINE.

By John Percy, M.D. Edin.

Physician to Queen's Hospital, and Professor of Organic Chemistry, Queen's College, Birmingham.

(*For the London Medical Gazette.*)

Case I.—Admitted in-patient of the Queen's Hospital, September 15, 1843, Edward R——s, æt. 37. Dark hair and eyes. Short stature. Married twelve years, and has one child eight years old; his wife has not since been pregnant. By trade a bridle-cutter. He has been accustomed to work in a top story, which, during the summer, was exceedingly hot, and during the evenings of winter was rendered hot and oppressive by gas-lights. Of general good health. Never remembers having been confined to bed by any illness. Habits temperate, though occasionally he has been guilty of slight excesses. Had syphilis eighteen years ago. A year ago an eruption of minute millet-like spots, not attended by itching, appeared on the fore-arms; previously, had never any cutaneous affection. Has never spat blood.

About seven months ago, he began to suffer from thirst, and to pass urine more frequently than natural, especially during the night. Afterwards, his attention was directed to white spots on his breeches, occasioned by the evaporation of urine. He has lost flesh: last Christmas (1842) he weighed 143 lbs., and three months ago his weight was reduced to 126 lbs. Perspires but little. Mouth dry and parched. Taste of a "sourish nature." No particular increase of appetite. In a morning has an uneasy sensation referred to epigastrium, relieved by taking food. He is ill-tempered and peevish, without any assignable cause. No headache. Has lost strength and desire for exertion. Lower extremities soon become cold. Food does not lie heavy at the stomach; occasionally much flatus, which escapes both by the mouth and anus; bowels generally confined. Tongue rough, white, coated, moist. His desire for sexual intercourse is diminished, though he still retains the power. No irritation of the extremity of the penis. No hereditary predisposition; nor is he aware that any of his relatives have ever been affected in a similar manner to himself.

Accurate observations respecting the diet and urine are appended in tables.

September 15th. — Had a vapour-bath, and perspired freely afterwards. Dryness of mouth relieved. Ordered—

Pil. Sap. c. Opio, gr. v. bis die; Ol. Ricin. p. r. n.

23d.—Capiat Creasot. gtt. j. ter die.

27th.—Dryness of mouth considerably relieved. During the last two or three days has had occasional abdominal pain, without purging. Feels pretty well. Appetite increased. On the 25th had a biscuit.

Rep. Pil. Sap. c. Opio, ter die; Intermitt. Creasotum.

October 4th.—Pain in the bowels, with slight purging. No dryness of the mouth. Does not relish his food. Pulse languid. Skin moist. Has perspired freely.

7th.—Complains of more thirst this morning than he has since the first week of his admission. Tongue white and coated. Passed urine twice in the night. Could take more meat.

11th.—Less dryness of the mouth. Tongue moist and slightly coated. Skin moist. Feels "better in himself."

To take occasionally lime-water flavoured by sassafras chips. Omitt. medicamenta.

21st.—Two days ago he began to take cod-liver oil (the white variety obtained from Mr. Morson, London). Has taken half an ounce twice daily. Passed urine only once last night. Weight yesterday, 120 lbs.

24th. — Has been purged several times.

Capiat. Mist. Creta, c. Conf. Aromat. Intermit. Ol. Jecoris Aselli.

27th.—Still slightly purged.

℞ Sulph. Ferri, gr. ij.; Opii, gr. iss. M. Ft. Pilula. capiat. j. ter die. Repet. Ol.

* Abercromby on Diseases of Abdominal Viscera, p. 125.

November 18th.—Feels very well. No dryness of mouth. Pulse improved in strength. Skin warm and moist.

25th. — As before. Tongue moist and slightly coated; it has all along maintained this character. Has not taken the oil for two days, in consequence of his stock having been exhausted. Can now take five or six table-spoonfuls without inconvenience, daily. Relishes his food. Passed urine three times last night.

December 2d.—Skin moist. No dryness of mouth. Tongue pale and moist.

16th.—Appetite not quite so good. In other respects as before. Weight 118 lbs.

Omitt. Oleum. Cont. alia.

January 6th.—Is becoming weary of a pure meat diet; does not relish his breakfast. No complaint of thirst or dryness of mouth. Tongue thickly coated posteriorly. Complains of soreness of throat. Slight specks of ulceration on the tonsils. Has perspired freely of late. Skin moist. Pulse 82 (standing), moderately compressible. Feels no depression to-day. Of late has risen once every night to pass urine. Since the 23d of December has been taking a drop of creasote in mixture three times daily.

℞ Argenti Nitratis, gr. ij.; Micæ Panis, q. s. M. Ft. massa, et div. in pil. xij.; Capiat j. ter die.; Pil. Sap. c. Opio, gr. v. bis quotidie; Cont. oleum. Om. alia medic.

17th.—Diarrhœa last evening.

Cap. Pulv. Ipecac. co. gr. x. ter die.

He had occasionally suffered from diarrhœa, which I was inclined to attribute to the cod liver oil; I accordingly desired him to intermit it, but the diarrhœa occurred during the periods of intermission.

20th.—No complaint of thirst or dryness of the mouth; he feels comfortable, and desires to resume his work. He left the hospital on the 25th, still continuing under my care as an outpatient. I now determined to watch the effect of opium gradually increased, and I again prescribed—

Pil. Sap. c. Opio, gr. v. to be taken twice daily.

29th.—No thirst or dryness of mouth. Appetite good. Can take exercise without fatigue. Perspires on exertion. Complexion improved. Tongue natural. Bowels regular. Passed water twice last night, and once the night before. Has not taken any vegetable food, except tea and coffee, without sugar. Fat bacon agrees well with him; no uneasy sensation at the stomach after taking fat. Not the smallest unpleasant effect from the opium pills.

February 7th.—As before.

Capiat. Pil. Sap. c. Opio. sex quotidie. (The number having been gradually increased).

March 2d.—Has been at work during the last fortnight. A few days ago, on returning from his work at night, he caught a severe cold, followed by shivering, colicky pain, and diarrhœa. I prescribed chalk mixture with aromatic confection, and Tinct. of Opium, and a powder composed of Pulv. Jacobi veri and Pulv. Ipecac. co. This morning there is an eruption about his mouth; diarrhœa; debility; tongue foul; has taken of late a biscuit daily, and this morning about four ounces of common bread.

Cap. Pulv. Ipecac. co. gr. x. ter die.

℞ Ammon. Carb. 3j.; Aquæ Anisi, fʒviij.; Solve. Cap. fʒ. ter die.

9th.—Having requested him particularly to examine his urine in respect to acidity instantly after evacuation, he reports that uniformly litmus paper was reddened by it. The examination was repeated several times, and uniformly with the same result. From my knowledge of the patient, I am satisfied that these results may be depended on. These observations were made to test the assertion of Dr. Alldridge, contained in a recent number of the Dublin Medical Journal, namely, that the urine of diabetes mellitus is always *neutral* to test paper, immediately after evacuation. Although I would not attempt to oppose the results of a single case to those of Dr. Alldridge, yet I may remark that I have always found the reaction of diabetic urine to be decidedly acid in every case which I have had an opportunity of examining.

I now append tables of the diet, and the quantity of urine passed daily. Any conclusions which may be drawn from these data I shall reserve for a future communication respecting the treatment of the disease in question.

Table of the Diet of Roberts, during his residence in the Hospital.

By gluten bread is meant, bread made with wheat flour, from which the greater part of the starch had been removed by washing. It was carefully prepared in the hospital. The liquid which he drank besides milk and beef-tea, was weak tea or coffee without sugar, and water flavoured with sassafras; the quantity may be found by subtracting the amount of beef-tea and milk in the following table from the quantity of liquid indicated in the tables marked A and B. Weights all avoirdupois.

Date.	Meat—Beef or Mutton—Weighed cooked.	Beef-tea.	Milk.	Eggs.	Gluten Bread.	Biscuits.	Cabbage.
	ozs. avoird.	Pints.	Pints.	Number.	ozs. avoird.	Number.	ozs. avoird.
Sept 16	6	1	1	2			
27	8	,,	,,	,,			
Oct. 4	,,	2	,,	,,			4
6	,,	,,	,,	,,			omitted.
7	,,	,,	,,	,,		2	
10	,,	,,	,,	,,		omitted	
Nov. 4	18	3	½	,,			
8	,,	2	2	,,			
11	,,	3	1	,,			
Jan. 2	,,	,,	,,	,,	2		
17	,,	2	,,	,,	,,		
24	,,	,,	,,	,,	4		

TABLE A.

Indicating the quantity of urine passed, and the quantity of fluid drunk, inclusive of milk and beef-tea.

Date.	MORNING. Urine Passed.		Specific Gravity.	EVENING. Urine Passed.		Specific Gravity.	Fluid Drunk.
1843.	lbs.	ozs.		lbs.	ozs.		Pints.
Sept 17	2	9	1046	2	10	1046	4
18	1	13	1046	1	10	1040	4
19	2	8	1046	4	4	1043	4
20	1	5	1047	2	8	1045	4
21	1	9	1045	2	14	1043	1
22	2	4	1045	2	8	1046	5
23	1	11	1045	3	0	1045	4½
24	1	8	1044	4	1	1035	4½
25	2	6	1043	3	8	1040	5
26	1	10	1050	3	0	1045	4
27	3	7	1040	3	5	1044	3
28	2	0	1047	1	12	1042	3
29	Error		1032	3	0	1040	3
30	2	12	1037	3	0	1036	3
Oct. 1	2	6	1039	3	0	1040	4
2	2	7	1045	3	0	1037	4
3	1	13	1042	2	7	1037	3½
4	2	1	1041	2	15	1043	3
5	1	15	1042	3	2	1037	3½

TABLE B.

Date.	Morning. Urine passed.	Sp. gr.	Evening. Urine passed.	Sp. gr.	Deposit.*	No. of stools.	Fluid drunk.
	lbs. ozs.		lbs. ozs.				Pints.
Oct. 6	2 2	1041	3 9	1039	0	2	3½
7	1 14	1043	3 8	1043	0	0	4
8	1 13	1048	3 10	1043	0	1	3½
9	2 12	1044	3 5	1042	0	1	do.
10	2	1043	3 6	1036	0	0	3
11	2 4	1039	2 8	1040	—	0	3
12	2 3	1043	2 9	1039	0	3	3
13	1 14	1044	2 3	1038	—	3	4
14	2 7½	1040	2 10	1040	—	0	3½
15	2 5	1037	3 2	1040	—	0	3
16	2 7	1044	3 13	1039	—	1	4
17	3 1	1038	3 11	1039	—	1	3½
18	3 3	1041	3 12	1033	—	1	do.
19	3 1	1036	2 15	1037	—	1	do.
20	2 13	1037	2 5	1037	—	0	do.
21	2 15	1035	3 3	1037	—	1	do.
22	1 13	1046	2 14	1036	—	2	4
23	2 9	1035	3 2	1035	—	0	3½
24	2 10	1035	3 7	1034	—	1	do.
25	2 7	1036	3 8	1031	—	2	4
26	3 3	1039	3 11	1032	—	2	3½
27	2 12	1032	3 8	1035	—	0	do.
28	2 10	1035	3 5	1034	—	2	do.
29	2 8	1032	3 11	1040	—	1	do.
30	2 3	1045	3 3	1032	—	2	do.
31	1 8	1042	1 9	1030	—	4	do.
Nov. 1	1 6	1035	1 15	1034	—	3	do.
2	2 3	1040	2 1	1028	—	0	do.
3	1 5	1034	2 2	1031	—	2	do.
4	1 6	1035	3 7	1035	—	1	do.
5	1 11	1034	3 2	1036	—	2	do.
6	1 9	1035	3 5	1035	—	2	4
7	1 8	1034	3 3	1032	—	1	4
8	1 8	1042	1 9	1030	—	1	4
9	1 6	1035	2 13	1033	—	2	4
10	1 11	1041	2 11	1035	—	1	4
11	1 4	1035	2 8	1031	—	2	4
12	1 7	1035	2 13	1035	—	2	4
13	1 8	1035	Error	Error	—	1	4
14	4 4*	1038	2 11	1030	—	2	4
15	2 3	1025	2 2	1031	—	1	4
16	1 12	1027	2 11	1024	—	1	4
17	1 13	1025	2 3	1023	—	0	4
18	1 10	1021	1 14	1026	—	0	5
19	2 12	1020	1 13	1026	—	1	4½
20	2 6	1022	2 12	1026	—	1	do.
21	2 6	1021	2 11	1027	0	2	do.
22	2 1	1023	2 8	1026	—	1	do.
23	2 3	1020	2 9	1021	—	0	do.
24	2	1022	2 12	1030	0	2	do.
25	1 10	1032	2 8	1032	0	0	do.
26	1 7	1032	2 11	1028	0	0	do.
27	1 15	1030	2 9	1032	0	0	do.
28	1 10	1030	3 2	1029	0	1	do.

* The deposit mentioned in this table consisted of beautifully crystallised uric acid, which was frequently of a bright almost golden colour. The mark — indicates the presence of the deposit, while the mark 0 indicates the reverse.

† In 24 hours.

TABLE B.—*continued.*

Date.	Morning. Urine passed.	Sp. gr.	Evening. Urine passed.	Sp. gr.	Deposit.	No. of stools.	Fluid drunk.
	lbs. ozs.		lbs. ozs.				Pints.
Nov. 29	1 11	1031	2 11	1032	0	1	4½
30	1 9	1030	2 15	1033	0	2	do.
Dec. 1	2 3	1036	2 10	1032	0	0	do.
2	1 15	1032	2 14	1030	0	1	do.
3	2 4	1030	2 2	1034	—	0	do.
4	1 13	1031	2 9	1030	—	0	do.
5	2	1030	3 1	1024	—	0	do.
6	1 7	1027	2 9	1030	—	1	do.
7	2 3	1030	1 10	1030	—	0	do.
8	1 7	1034	2 8	1025	—	0	do.
9	1 15	1031	2 7	1025	—	1	do.
10	2 7	1025	1 12	1026	—	1	do.
11	2 6	1029	1 8	1032	—	0	do.
12	2	1031	2 8	1035	—	0	do.
13	2 14	1032	2 3	1027	—	2	do.
14	2 9	1029	1 13	1031	—	0	do.
15	2 7	1032	1 10	1033	—	0	do.
16	1 13	1033	1 13	1031	—	1	do.
17	2 7	1031	2 3	1035	—	1	do.
18	2 8	1030	2 9	1033	—	1	do.
19	2 7	1039	1 13	1040	—	0	do.
20	2	1038	1 9	1039	—	1	do.
21	1 14	1037	1 12	1040	—	4	do.
22	2 8	1038	1 14	1037	—	3	do.
23	2	1037	2	1039	—	1	do.
24	2 11	1043	2	1038	—	0	do.
25	2	1041	2	1040	—	0	do.
26	2	1040	2 1	1042	—	1	do.
27	2 6	1041	2 1	1035	—	1	do.
28	2 1	1038	2	1040	—	0	do.
29	2 10	1040	1 9	1040	—	0	do.
30	2 7	1038	2 3	1036	—	1	do.
31	2 3	1038	2 1	1039	—	0	do.
Jan. 1, 44	2 5	1037	2	1038	—	2	do.
2	2 4	1037	2 3	1039	—	0	do.
3	2 8	1038	2	1028	—	0	do.
4	2 9	1037	2 5	1039	—	0	do.
5	2 8	1040	2 8	1040	—	1	do.
6	2 7	1040	2 7	1041	—	1	do.
7	2 8	1040	2 8	1040	—	0	do.
8	2 11	1040	2 9	1040	—	1	do.
9	2 13	1040	2 6	1040	—	0	do.
10	2 10	1040	2 8	1040	0	0	do.
11	2 10	1040	2 9	1040	—	0	do.
12	2 10	1041	2 8	1040	—	1	do.
13	2 12	1042	1 5	1040	—	0	do.
14	2 9	1045	1 9	1045	—	1	do.
15	2 8	1041	1 15	1041	0	0	do.
16	2 6	1040	2 4	1041	—	1	do.
17	2 9	1040	2	1041	—	4	do.
18	2 8	1041	2 6	1041	—	2	do.
19	2 7	1041	1 12	1040	0	2	do.
20	2 5	1042	1 6	1045	—	1	do.
21	2 5	1041	1 12	1040	—	1	do.
22	2 7	1041	2 8	1040	—	1	do.
23	1 12	1040	1 10	1034	—	1	do.
24	2 4	1031	2 9	1025	—	0	do.

The absolute amount of liquid drunk during the residence of the patient in the hospital, a period of 129 days, was 536½ lbs.; whilst the amount of urine voided during the same period was 612 lbs. 2½ ozs. The average specific gravity of the urine was 1036°. I can vouch for the accuracy of the foregoing tables, the observations on the urine having been made by an intelligent apothecary, Mr. C. Palmer, who was my laboretory assistant during six months.

Chemical observations respecting the urine.

I prefer giving these observations as they occur in my journal.

Sept. 15.—Urine passed to-day. Colour, pale straw. Clear, without sediment. Usual odour of diabetic urine. Acid, reddening litmus. Sp. gr. 1038°. I evaporated some of this urine to the consistence of syrup over the steam-bath, and added to the residuum twice its volume of nitric acid, of sp. gr. 1·2. On the following morning a beautiful crystalline mass of nitrate of urea was diffused through the liquid.

16th.—Urine rather deeper in colour. Odour urinous. The patient was, immediately on admission, restricted to an animal diet, but he had previously taken a considerable quantity of bread and other amylaceous matter.

18th.—Colour, pale brown, like that of ordinary urine. Smell, urinous. A considerable deposit of rhombic plates of uric acid. Sp. gr. 1039·7; temp. 71·5 F. I fermented 1000 grains of this urine with a minute quantity of yeast precisely in the manner described in a former communication to the GAZETTE.

23d.—Potass apparatus after fermentation . .	626·87
18th.—Ditto ditto before fermentation . .	603·50
Increase due to carbonic acid	23·37

This corresponds to 52·67 grains of grape-sugar (C_{12} H_{14} O_{14}).

Nov. 25th.—Urine passed to-day. Pale. Slightly turbid from flocculent matter; turbidity instantly removed by a minute quantity of nitric acid. No deposit of uric acid. Reaction very feebly acid.

Jan. 15th.—Acid. Slightly turbid from mucous flocculi. No deposit of uric acid. Sp. gr. 1042°; temp. 51° F. Urine was passed from the morning of 14th to that of 15th. The whole quantity amounted to 4¼ pints. Of a portion of this I made the following quantitative analysis:—

Analysis of 1000 *grains.*

Solid matter	105·50
Water	894·50
Sugar	40·12
Urea	12·16
Uric acid	0·16
Indeterminate organic matter .	44·58
Chlorinic, carbonic*, phosphoric, and sulphuric acids . .	6·78
Potass (copious) and soda .	
Phosphoric acid . . .	1·70
Lime and magnesia . .	
	1000·00

500 grains left by evaporation in vacuo over SO_3, 55·83 grains, which, by further evaporation in Berzelius' apparatus at 212°, were reduced to 52·75, at which amount I have estimated the solid matter in the foregoing analysis. The urea was separated in the usual manner, from the fermented urine by evaporation, treating with alcohol and nitric acid of 1·2. I made at the same time a comparative experiment concerning the extraction of the urea, by the same process, from the unfermented urine.

500 grs. of the fermented urine, furnished of nitrate of urea .	12·41
500 grs. of the unfermented ditto, ditto ditto	6·76.

On the addition of NO_5 in the latter case, slight effervescence was occasioned.

We cannot but be struck with the large proportion of indeterminate organic matter indicated in the analysis. Thinking that possibly some defect might have existed in the determination of the sugar, I fermented between two and three pints of the same urine with yeast, keeping the mixture, during the whole process, in a warm place by the fire.

100 grains of this fermented urine, evaporated over the steam-bath, and dried during many consecutive hours at 212° F., furnished 6·65 of dry residuum, or 66.5 per cent. Now, by deducting the amount of sugar in the foregoing analysis, 40·12, from the amount of solid matter, we have 65·38;

* From destruction of an organic alkaline salt.

so that the accuracy of the analysis is confirmed, the difference between the results obtained in the two experiments being 66·5—65·38=1·12.

Hence the difference in weight between the dry residua of two equal portions of diabetic urine, of which one has been fermented before evaporation, indicates precisely the amount of sugar, the carbonic acid escaping during the process of fermentation, and the alcohol being driven off by evaporation.

Wishing to determine precisely the effect of a pure animal diet upon the urine in diabetes, I provided food for Roberts during four consecutive days. Accordingly, he came to my house in the morning, and returned home at night. From my knowledge of the man, I can safely affirm that the following results are worthy of confidence.

He came, for the first time, in the morning, March 11th. During that day his diet consisted of beef-steak, strong beef-tea, eggs, and water flavoured with whiskey.

March 12th.—He took—

Breakfast:—Beef, 3 ozs.; beef-tea, 13 ozs. (avoirdupois).

Dinner:—Beef, 6 ozs.; beef-tea, 26 ozs.; water 8 ozs., containing about a tablespoonful of whiskey.

Tea:—Beef, 5 ozs.; beef-tea, 13 ozs.; water, 8 ozs. containing about an ounce measure of whiskey.

In 24 hours, from last evening to the same time to-day, he passed 72 fluid ounces of urine, of which the greater part was voided in the night.

Characters.—Turbid. Colour, pale brown. Sp. gr. 1037; temp. 56° F. I estimated the sugar by fermenting 100 grains of urine over mercury in a graduated receiver, and measuring the carbonic acid evolved. The urea was ascertained in the usual manner with nitric acid, &c. the urine having been previously fermented.

1000 parts yielded	of sugar	37·3
	of urea	20·24.

March 13th.—

Breakfast:—Mutton, 5 ozs.; beef-tea, 24 ozs.

Dinner:—Ditto 9 ozs., a small quantity of fish, and water, flavoured with whiskey, 8 ozs.

Tea:—Beef, 5 ozs.; beef-tea, 9 ozs.; water flavoured as before, 8 ozs.

Complained of slight thirst. Spirits much improved. No stool during the last three days.

From 6 P.M. yesterday to the same time to-day, he passed 54 fluid ounces of urine, of which he voided 28 ounces in the night; of sp. gr. 1039°; temp. 56° F.

Characters.—Urine passed in the day. Colour, pale straw, lighter than that of yesterday. Copious flocculent sediment (urate of ammonia). Reaction acid. Sp. gr. 1036°; temp. 56°. I fermented 200 grains over mercury.

1000 parts yielded	of sugar	24·95
	of urea	31·18.

March 14th.—

Breakfast:—Beef, 6 ozs.; beef-tea, 14 ozs.

Lunch, 11 A.M.:—Beef-tea, 13 ozs.

Dinner:—Beef, 6 ozs.; water, as before, 8 ozs.

Tea:—Beef, 5 ozs.; 1 egg; milk, 15 grs.

Urine passed, in 24 hours, 68 fluid ounces, before the milk was taken. Sp. gr. of that passed during the day was 1038°; temp. 46° F. Characters similar to those of the preceding specimens. I fermented 200 grains over mercury.

1000 parts yielded	of sugar	34·35
	of urea	20·86.

I could never obtain crystallized sugar from any specimen of Roberts' urine. I evaporated one portion in vacuo over sulphuric acid, and left the residuum exposed to the atmosphere for a month, and yet no crystallization of sugar appeared.

The experiments last detailed confirm the results of M'Gregor, and justify the conclusion that in diabetes mellitus grape-sugar may be formed out of previously assimilated matter, or out of the protein series of compounds of the food. It will be observed, that, during the restriction of the patient to a purely animal diet the proportion of urea was increased; so that in accordance with the recent researches of Lehmann, a direct relation appears to exist between the nature of the diet and the proportion of urea in the urine. In extraordinary circumstances we can easily understand, by reference to formulæ, how a protein compound can supply

carbon for pulmonary oxidation, and yield grape-sugar and urea. Thus, 1 equivalent of protein, 52 of oxygen, and 4 equivalents of water, may be represented by 2 equivalents of grape-sugar, 3 of urea, and 18 of carbonic acid—

$(C_{48}\ H_{36}\ N_6\ O_{14}) + O_{52} + 4HO =$
$2\ (C_{12}\ H_{14}\ O_{14}) + 3\ (C_2\ N_2\ H_4\ O_2) + 18\ (CO_2)$

[To be continued.]

REPORT

OF

FATAL DISEASES AND MORBID APPEARANCES

OBSERVED IN THE POST-MORTEM EXAMINATIONS MADE AT ST. GEORGE'S HOSPITAL DURING THE YEAR 1843.

By Henry Lee, Esq.
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(For the London Medical Gazette.)

During the last few years a record has been kept of the morbid appearances observed in every patient who has died in St. George's Hospital. In the beginning of the year 1843, the task of noting these appearances was connected with a system of registration, by means of which the history of each patient with regard to the period of his admission, the result of the case, and any very remarkable circumstances connected with it, might in every instance be traced.

The number of cases admitted during the year amounted to three thousand one hundred and fifty-five. These, when classified under the heads of different diseases, are not sufficiently numerous to offer many points of statistical information, but will probably become valuable when added to the results of future years. As, however, in every case, the morbid appearances observed after death have been separately and carefully related, some account of the general results obtained may not be uninteresting. Although any attempt to give an analysis of the pathological changes in a number of cases, especially when such changes have taken place in the fluid parts of the body, must necessarily be very imperfect, yet the principal cause of death is generally sufficiently apparent. The following account will therefore refer to some of the most apparent causes of death, and not to all the morbid appearances observed.

The value of this mode of reviewing a number of cases, too large to be retained separately in the mind, would be greatly increased, if, during succeeding years, a more complete history of the cases, including the treatment pursued, were added to the description of the morbid appearances.

The number of fatal cases which occurred at St. George's Hospital during the year amounted to two hundred and seventy-seven*, including thirty-six cases admitted for various accidents and external injuries. In two hundred and thirty-nine cases, the body was examined after death; and in thirty-one of these, death was the result of external violence. The following account is therefore taken from thirty-one cases in which death was the result of accident or external violence; and two hundred and eight in which it arose from natural causes.

CONSEQUENCES OF EXTERNAL VIOLENCE.

Compound fracture. — Of eighteen cases of compound fracture, which occurred during the year, eight proved fatal. In three instances, secondary abscesses formed, and death supervened between the twenty-second and thirty-third day. In one case, the synovial membrane of the knee-joint became distended with purulent fluid subsequent to an attack of erysipelas five months after the accident. Two of the cases were complicated, respectively, with fracture of the spine and of the pelvis. The patient, in one instance, at first refused to have the injured leg removed, and died of diffuse cellular inflammation after secondary amputation of the thigh. The remaining fatal case was one of compound fracture of the skull, in which both the *dura mater* and the brain were wounded. The average period at which death occurred, in the eight cases referred to, was thirty-four days. A more detailed account of these cases will probably be given when the number of cases becomes sufficiently large to afford points of statistical interest.

Simple fracture of the skull proved fatal in three instances.

Fracture of the vertebræ was the cause of death in four cases, in all of

* Several of these were cases of advanced disease, in which the patients died shortly after admission.

which the spinal chord was found more or less softened opposite the seat of fracture. The softening, in one instance, had proceeded to such an extent that, when placed in water, one small band of medullary matter alone remained to connect the upper and lower portions of the chord. The surrounding vessels, in this instance, were only slightly congested. Extravasation of blood was found in the softened portions of the chord in two cases.

Fatal concussion of the brain occurred in two instances. In the first of these the trephine had been applied over a collection of purulent fluid between the dura mater and the bone. The cancellous structure of the bone was, after death, found filled with offensive purulent fluid, and suppuration had extensively involved the membranes of the brain. In the second case there was, besides the injury of the head, a fracture of the anterior part of the cricoid cartilage. The mucous membrane of the larynx, a little above the situation of the fracture, but below the chordæ vocales, was lacerated, and a probe might be passed freely through this aperture in the mucous membrane, between the broken portions of the cartilage. The cellular membrane around the fracture was distended with air, and from this point emphysema extended upwards into the neck*, and downwards into the anterior mediastinum.

Fracture of the pelvis occurred as the cause of death in three cases; and of the ribs, combined with laceration of the pleura, in four. Two instances presented themselves of rupture of the liver from external violence, and one of rupture of the heart. This last case occurred in a lad five years of age. The heart, externally, presented no mark of violence, with the exception of a circumscribed patch of extravasated blood beneath the *pericardium*, situated about the centre of the heart, and corresponding to the posterior attachment of the *septum*. Opposite to this point, the structure of the heart was broken down internally; so that a probe might be passed from either ventricle into the extravasation, and from one ventricle to the other, without opposition. External violence was also the cause of rupture of the small intestine in one case, and of the kidney in another.

* During life, very considerable quantities of air had been forced, by the efforts of coughing, through the opening in the larynx, and the emphysema in the neck was so troublesome that several incisions were made to relieve it.

SCROFULOUS AFFECTIONS.

Of those examined, fifty-three died of phthisis, or other scrofulous affections. In fifty* of these cases the lungs were found affected with tubercles in various stages of development; and in forty, one or more vomicæ presented themselves. No tubercular matter could be detected in the lungs in two cases: in one of these the pulmonary tissue appeared quite healthy, while in the other the lower portions of both lungs were occupied by numerous tortuous cavities, communicating with each other, and with the dilated bronchial tubes in the neighbourhood. These cavities, between which the structure of the lungs was compressed, were lined by a smooth lubricated membrane: they contained, together with bronchial tubes leading to them, a quantity of offensive, discoloured, purulent fluid.

In twenty-six of the fifty cases, the lungs had undergone some degree of condensation, independent of the deposition of tubercular matter.

In the great majority of cases the pleura was found adherent, and in thirteen instances presented recently effused lymph upon its surface.

Pneumothorax in consequence of ulceration of the pleura pulmonalis presented itself in five instances, in four of which suppuration of the pleura had taken place. Effusion of serum into the pleural cavity occurred in fourteen instances.

The kidneys were found diseased in twenty of the above cases. In nine of these they contained scrofulous deposit, and in four the pelvis of the kidney was coated with tubercular matter.

The liver was affected in thirteen, in seven of which it was simply enlarged, and in three it contained tubercular deposit.

Tubercular thickening of the peritoneum was noted in five cases.

Scrofulous abscesses formed in different large points in eight instances, of which four occurred in the hip, two in the knee, one in the elbow, and one in the wrist.

The brain.—Scrofulous tumors presented themselves in the brain in three instances; and in one a small tubercular deposit was found beneath the arach-

* In one case the lungs were not examined.

noid upon the pons varolii. A thick pulpy layer of scrofulous matter was also, in this case, found in contact with the posterior surfaces of the bodies of the cervical vertebræ. The posterior common ligament of the spine, and the transverse ligament of the atlas, were completely destroyed, with the exception of a very thin filament of the latter: this alone retained the odontoid process in its situation. The dura mater, in the upper part of the cervical region, was thickly coated upon its anterior surface with tubercular matter, a thick layer of which was continued from this situation upwards through the foramen magnum to the sella tursica. The bones in contact with this scrofulous deposit were all in a state of caries; and in the basilar process of the occipital bone an ulcerated opening existed, communicating with the upper part of the fauces.

Softening of the brain occurred in two instances, in one of which nearly the whole of one hemisphere was affected, the medullary substance being reduced, in some situations, to the consistence of cream.

A scrofulous abscess, not accompanied by any apparent alteration or increased vascularity of the surrounding cerebral substance, presented itself in one instance.

The only remaining case in which the brain was found diseased, in those who died of tubercular affections, was one in which the space at the base of the brain, between the commissure of the optic nerves and the pons varolii, was occupied by a thick layer of yellow gelatinous lymph. The deposit of this substance had taken place in the cells of the pia mater, by which it was conducted into the descending horns of the lateral ventricles, which were greatly distended with turbid serum.

The average age at which death occurred, in the above fifty-three cases, was twenty-seven years and a half.

CANCEROUS AND OTHER DISEASES USUALLY TERMED MALIGNANT.

Under this head are included twenty-six cases. The brain was affected in three instances. In the first of these a tumor, of a firm consistence, of a dark brown colour, and rather larger than an egg, was situated in the middle of the posterior lobe of the left hemisphere. The lateral ventricles, and especially the descending cornua, were much distended with fluid. A small oval tumor, of healthy cerebral substance, appeared immediately to the outside of the tractus opticus on each side, corresponding exactly to the lower portions of the descending cornua, and apparently produced by the fluid which they contained: these small projections compressed the optic nerves, and it is remarkable that in this case the patient has suffered from amaurosis, unaccompanied by any other apparent affection of the nervous system, for several months previous to his death. In a second case nearly the whole of the left hemisphere had become affected with malignant disease. It was in many places much softened, but the part corresponding to the squamous portion of the temporal bone had become converted into a tough reddish-brown fibrous substance, intimately connected with the dura mater. In this instance there was either no paralysis, or it existed in so slight a degree that no mention is made of it in the history of the case. In the third instance an extensive deposit of encephaloid matter occupied the right hemisphere of the brain. The diseased portion presented several extravasations of blood, the largest of which was the size of an almond. In this case severe and constant pain had for a long period been experienced on the right side of the head, when paralysis of the left side of the body, accompanied by temporary insensibility, suddenly made its appearance. The paralysis, in these cases of malignant disease of the cerebrum, appears to have been produced rather by some accidental occurrence during the course of the malignant growth, than by the disease itself.

In six cases the lungs were the seat of the disease, which, in five instances, consisted of encephaloid deposit. Of the six cases three occurred in conjunction with similar disease of the liver; and one was accompanied by disease of the thyroid gland. In this instance the natural structure of the gland had almost disappeared; the only remaining portion of it was a small part of the left lobe, which was intimately connected with the diseased structure. A large lobulated oval tumor extended from the thyroid cartilage to the sternum, projecting laterally beyond the sterno-cleido-mastoid muscle. Upon the inner side of the tumor was a large ulcerated cavity communicating with

the anterior part of the œsophagus, and also with the upper part of the trachea. The tumor presented internally the genuine characters of scirrhus.

In one instance the great intestine was the seat of the disease. The cœcum, together with a portion of the ascending colon, was greatly thickened, and presented, upon its internal surface, numerous irregular patches of ulceration: each ulcer was surrounded by an areola of inflammation, and presented upon its surface an unorganized white layer, firmly attached, and resembling a superficial slough. In the thickened parietes of the bowel there existed numerous small rounded tumors: these at first appeared hard, but when cut into were found to consist of a brownish semifluid substance. The absorbent glands in the meso-colon of the right side were similarly affected.

The accompanying table indicates the organs affected, and the various parts simultaneously diseased in the different cases.

TABLE SHEWING THE PARTS AFFECTED IN TWENTY-SIX CASES OF MALIGNANT DISEASE.

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
The brain	—																									—	In 3 cases
The tongue																											1
The thyroid gland																											1
The lungs																											6
The cellular tissue in anterior mediastinum																											2
The mammary gland	—																										2
The parts surrounding the mammary gland																											2
The parts surrounding the subclavian vessels	—																										4
The cervical glands																											6
The pleura	—																										5
The ribs	—																										1
The cellular tissue between the larynx and pharynx																											1
The liver																											8
The pancreas																											1
The pyloric orifice of stomach																											4
The rectum																											3
The cæcum and ascending colon																											1
The bladder																											1
The uterus																											3
The peritoneum																											7
The lumbar glands																											7
The lateral ligaments of the uterus																											1
Ovarian cyst																											1
Age of Patient	64	60	40	38	31	24	45	27	35	46	83	24	57	45	56	50	76	50	56	16	23	50	40	48	45	57	

— Indicates that the part mentioned in the margin was the seat of the disease in the case under the number of which it is placed.

* Mesenteric glands.

In five cases the disease was confined to one situation. The parts thus affected were the pyloric orifice of the stomach, the rectum, the pleura, the brain, and the cellular tissue between the larynx and pharynx. The average ages at which death occurred was 45 years.

[To be continued.]

FUNCTIONS OF THE TRUE SPINAL SYSTEM.

By —— ——.

(For the London Medical Gazette.)

With the hope of obtaining further information on some difficult points in connection with the true spinal system, I take the opportunity afforded by the pages of the London Medical Gazette, to make the following observations.

It has occurred to me, in thinking on the reflex symptoms of the true spinal system that the explanations given by Dr. M. Hall are in some degree defective, and lead us to wrong conclusions in pathology.

It would be altogether impossible within the compass of a short paper to examine this question in all its bearings. I will, therefore, confine my notice to a few points only.

The curious reflex phenomena which Dr. Hall has described as occurring in paralysed limbs, are no doubt familiar to most of your readers. In some instances, slight irritation of the palsied extremity, will excite it to involuntary twitchings and contractions; in others, these symptoms cannot be produced. Sometimes the limb is found permanently rigid and contracted, at others it is relaxed and extended. Dr. Hall explains this circumstance by supposing that the convulsive motion of the limb, or its rigid contractions, arise from the controlling influence of the brain being lost, and that the muscular movements are abandoned as it were to the true spinal system. He further concludes, when the reflex functions cannot be excited, that the true spinal system is itself the seat of morbid action. My own observations lead me to suspect that Dr. Hall's conclusions are erroneous: that true reflex functions when exhibited shew, *not* that the cerebral influence is destroyed, but that it is merely perverted, and that when the brain ceases to have all influence over the palsied parts, the reflex functions cannot be excited, although there is no reason to suppose any alteration in the condition of the spinal marrow.

In the first place I will refer to cases where the reflex phenomena were present so long as the paralysis was incomplete; so long, in fact, as some cerebral influence was retained over the palsied limbs; while as soon as this influence ceased, and the paralysis was complete, the reflex functions were at the same moment rendered inactive.

In Andral's Clinique Médicale, Vol. iii. p. 14, a case of incomplete paralysis of the right side is detailed, in which the sensation of the palsied parts is retained. The paralysed limbs were spasmodically contracted.

Here there is the reflex function in action whilst the sensation of the parts remains. The functions of the cerebrum were not destroyed; a certain degree of influence over the palsied limb was still exercised by the brain. But mark what follows: the sensation is suddenly lost, and at the same moment the contracted limbs relax; the reflex phenomena cease. Paralysis of sense and motion is complete. The moment that the loss of sensation in the affected parts announces that the cerebral functions are destroyed in it, that moment the true spinal phenomena are equally removed.

I have many similar cases, but I will not trouble you with any allusion to them now, but proceed to other facts leading to precisely the same conclusion.

Not unfrequently cases are met with where one side is completely paralytic, while on the other side one or both limbs are contracted. Now, according to Dr. Hall's theory, the true spinal system exercises its function over the contracted limb, the brain having abandoned the parts affected to the reflex action; whilst on the side where the palsy is complete the true spinal system is itself in fault. But if any faith is to be placed in reasoning founded on morbid anatomy, it would appear that the contraction arises from a minor degree of disease in the brain itself than that which produces complete paralysis. I will allude to a case in Lallemand, vol. I, page 15, to illustrate this. The patient had complete hemi-

plegia of the left side, with a flaccid state of the muscles. The *right* limbs, on the contrary, were permanently flexed, so that the toe touched the nates, and the thumb was immoveably applied to the shoulder.

In a post-mortem examination, disease was found in both hemispheres of the brain; but on the right side it was much more advanced than on the left.

This case (to which I might add many others) shews that it is the brain itself which regulates the reflex phenomena, a minor degree of disease in that organ producing perverted muscular action, a large amount of disease occasioning the complete destruction of the reflex functions.

In many apoplectic cases the patient is suddenly deprived of sense and voluntary motion, or with complete hemiplegia, no reflex phenomena being apparent in the affected limbs; but after a certain period the limbs begin to contract, and afterwards remain in a rigid state.

Now this seems capable of explanation on two conditions; first, that when the effects of the shock on the brain have somewhat subsided, its functions become gradually, but still imperfectly, restored. The consequence is that the limbs become more or less contracted. In other cases the same train of symptoms might be caused by a healthy process going on within the cranium after an apoplectic seizure.

In Andral there is a case where the patient was suddenly seized with complete left hemiplegia. The limbs were flaccid, and remained so for a period; afterwards they began gradually to contract, and became rigid. Death, however, occurred; and, upon examination, an organised membrane was found completely surrounding the apoplectic cavity, shewing that a healing process had commenced in it.

These remarks will be sufficient to call attention to the subject, if it is worthy of notice. I forbear to allude now to other circumstances, and especially to the experiments made by Dr. Hall on living animals. Some of these I may hereafter shew to be capable of explanation in accordance with the views now advanced.

MR. LEY ON CANNABIS INDICA.

To the Editor of the Medical Gazette.

SIR,

IN Mr. Solly's clinical lecture on Tetanus, published in this day's GAZETTE, he relates the history of a case in which he employed the Indian hemp. Admitting "that the spasms began to abate soon after its administration," he says, "it is very doubtful if the Indian hemp had any share in the relief of the symptoms." The effects produced, if any, show that the preparation used was either inert, or insufficient in quantity. The promised and marked results were not produced,—relaxation of the muscles was not effected. Although, therefore, sleep in short naps does appear to have been obtained, probably with much benefit, yet the medicine as administered was inefficient. Between ten o'clock P.M. December 29, and twelve at night, December 30, a period of 28 hours, the patient took 350 minims of the tincture, which would contain of Mr. Squire's tincture, about 30 grains of the resin, which, as most readily procured, was probably the medicine used on this occasion. It is unfortunate, but true, that the Gunjah was deteriorated by age in this case, before it was appropriated for use as medicine. When Dr. Clendinning's paper on Cannabis Indica was read at the Medico-Chirurgical Society, he said that he had used the tincture prepared by Mr. Squire, but that he had also used another more recent preparation, made at Calcutta, with which I had provided him, which appeared, by comparisons repeated on several persons, to be certainly *five times the strength* of the other. I need not say, that in the treatment of tetanus, unless the medicine used is of the *best quality*, the efficacy of the remedy is not fairly tried.

Had Mr. Solly noticed a case which I sent to the Provincial Journal of the 5th of August last, he would have been struck with two coincidences: first, the apparent benefit of the remedy when first administered; second, the great inconvenience of the tincture as the mode of administration. A third point, the comparative efficacy of two different preparations of hemp, is of even more importance.

I have recently had an opportunity of witnessing the effects of different preparations of the Gunjah on a lady who suffers from tetanic spasms in consequence of diseased spine. When she first took the remedy it was an extract, prepared at Calcutta: it was attended with perfect success when no more than 5 or 7 grains had been taken. She has since that tried four or five preparations of the medicine, apparently deteriorated by age, without relief, in doses of 30 or 40 grains. On a late occasion, however, on taking a more recent preparation, it was again followed by signal relief.

Mr. Squire has now a preparation sent from Calcutta by overland mail; apparently as recent as any we have received. I have seen that its effects in producing sleep are very powerful in doses of one grain.

I am, sir,
Your obedient servant,
WILLIAM LEY.

Crawford Street, April 13, 1844.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Guy's Hospital Reports. 2d Series, No. 3. April 1844.

THESE Reports were commenced in 1835, for the laudable purpose "of recording the many valuable facts which so extensive an institution as Guy's Hospital presented, and of rendering them available to those members of the profession who had not themselves had the opportunity of witnessing them." These Reports regularly appeared for seven years, and comprise a series of monographs by its medical officers, which are extensively illustrated by cases that have occurred in the institution, and, where necessary, by plates also. A New Series commenced with the April number of last year, in which it was proposed, in addition to such treatises, "to illustrate the different classes of disease by the aid of series of reports collected within the walls of the hospital, and furnished by the books of the Clinical Society, and also by the publication of anomalous cases derived from the same sources." It seems necessary to add, that the Clinical Society, which, to the honour of the students, originated among themselves, consists of an organised body of reporters, taken from among the more advanced pupils, who divide the hospital into ten departments — four exclusively medical, four exclusively surgical, one mixed, and one obstetrical —in order to secure an account of every patient admitted. About thirty reporters suffice; and only so much time is required from each student as every one ought, at the advanced period of his pupilage when he becomes eligible into the Society, to devote to the practical study of medicine and surgery. There can be no better preparation than this for the proper discharge of those duties which, in the pursuance of his profession, must ultimately devolve upon every practitioner. A weekly meeting is also held in a room assigned by the Hospital, where all the cases admitted since the previous meeting are mentioned, the inspections after death and the operations performed during the week are detailed, and any subject of interest in the wards generally noticed; so that this assembly forms the centre of all the clinical information of the hospital.

As an authorised record of hospital cases on an extensive scale, the New Series presents higher claims to notice in detail than the former. The present number of the Reports contains five "papers" and two "reports," of which we shall proceed to give some account. In the first paper Dr. Lever details nine cases of "pelvic inflammation with abscess occurring after delivery." This disease, he informs us, is seldom noticed by systematic writers, but appears to have been known to Levret, William Hunter, and Deleurye; and has been particularly described in recent times as "secondary inflammation" by Dr. Kennedy, as "chronic inflammation of the uterine appendages after parturition" by Dr. Doherty, as "inflammation and abscess of the uterine appendages" by Dr. Churchill, and best of all, perhaps, by Professor Martin, jun., of Montpelier, in a monograph entitled "Des Dépôts des annexés de la matrice qui surviennent à la suite des couches."

Dr. Lever is unable to determine whether the inflammation commences in the uterine appendages properly so called, or in the cellular tissue seated between their peritoneal covering and

the pelvic fascia. The channels by which the matter usually finds its exit —the abdominal wall near the round ligament, the vagina, or the rectum— distinctly prove that the cellular tissue of the pelvis is involved; and this has been confirmed by examination after death in a woman who died of phthisis (eighth case) some months after recovering from this affection.

"In the treatment of this latent (subacute and often obscure, we should have said) inflammation, heroic measures are not required, as it usually occurs in persons whose constitutional powers are much depressed, and demand mild and constitutional treatment." Where it proceeds to suppuration, and fluctuation can be distinctly felt, Dr. Lever advises that the abscess should be opened. The nine cases recovered.

Mr. Alfred S. Taylor, in the second paper, reports a case of poisoning by corrosive sublimate, and another by paregoric, replete with matters important to the analytical chemist and medical jurist.

In the third, Dr. Hughes and Mr. Cock severally discuss the mode of performing paracentesis thoracis, and its value as a means of mitigating suffering and curing "thoracic effusions." The details of eleven cases, and a table of twenty recent and hitherto unpublished cases of the operation, with the results, are appended, in order to present a fair estimate of its consequences.

From Dr. Hughes's remarks, we learn that, till within the last four or five years, this operation had been rarely employed in the hospital; but within that period it has been resorted to between twenty and thirty times, or perhaps more frequently; for exact records have not, in all instances, been preserved. "In several of these cases fluid has been drawn off, with the apparent effect of facilitating and hastening the cure. An earlier expansion of the lung, and the decrease or prevention of deformity of the chest, have been the result. In other instances the operation has been resorted to simply for the purpose of affording temporary relief. For hydropericardium, and effusion of blood into the thorax, Dr. Hughes has never seen the operation performed; but in pneumothorax, hydrothorax, and empyema or chronic pleuritic effusion, it is practised with one of three objects: first, the direct cure; second, the relief of distressing symptoms; and third, facilitating the cure by other means. For the conditions of its employment in pneumothorax, our readers are referred to Dr. Hughes' essay on that affection, in the Medical Gazette for January 1844. Most modern pathologists will agree with Dr. Hughes, that they "are not practically conversant with any effusion of water into the pleura independently either of inflammation of that membrane or of obstruction to the circulation in the heart, lungs, or mediastinum, excepting that which, in many cases, occurs a few hours before death, or is the consequence of exudation after that event." Tapping in hydrothorax, therefore, can only consistently be employed as a means of temporary relief, and of "affording a more extended period, under more favourable circumstances, for applying remedies for the removal or diminution of the original malady." "Increasing dyspnœa and orthopnœa, with a progressive dulness on percussion on one or both sides of the chest, which varies in situation according to the position of the patient, and which is found not to be under the control of other remedies," are the indications stated for the employment of paracentesis in hydrothorax.

In discussing the employment of paracentesis in chronic pleuritic effusion, and in empyema, the more immediate object of his paper, Dr. Hughes refers to, and quotes, his observations appended to a case of empyema in the Medical Gazette of June 1839. He believes the distinction there drawn "between empyema, properly so called, and chronic pleuritic effusion, to be worthy of more attention than it has received. The cure, in the one case, when the lung is thickly coated by albuminous matter, permanently bound down by adhesions, and consequently incapable of expansion, can only be effected by the slow process of contraction of the side, and curvature of the spine, assisted by the gradual enlargement of the lung on the opposite side. It is likely, therefore, to be hastened only by the occasional withdrawal of small quantities of the fluid. When, on the contrary, as in the other case, the effusion has recently occurred, and, by the aid of the explorator, is proved

not to be purulent, it appears to be a legitimate object of treatment to prevent, if possible, such continued compression, and the formation of such dense pleuritic coating of the lung, as may interfere with its capability of future expansion, and to obviate the necessity of waiting for the tardy process of absorption, contraction, and distortion." The withdrawal of a certain portion of the fluid will afford space for the still expansible lung, and become an important adjunct to the other means of cure. Even in diseases necessarily fatal, as phthisis, suppuration of the lung, or mesenteric disease, when the dyspnœa and general distress are dependent upon fluid accumulated in the pleura, these symptoms will be greatly relieved, though no permanent cure can be effected by the operation.

Dr. Hughes is perfectly aware that Drs. Stokes and Hope, and many others, have published or referred to a great number of cases in which empyema, or chronic pleuritic effusion, so called, have been cured without operation. He has himself seen many such cures, and effected several; but he nevertheless believes that the occasional abstraction of a small quantity of fluid will accelerate and materially contribute to the cure, and that its adoption is especially desirable where the general health, state of constitution, or other circumstances, render a prolonged purely medical treatment injurious or undesirable.

Many practical remarks on the diagnosis follow; but we must pass on to the observations of Mr. Cock, who states that "the certainty of diagnosis which auscultation affords has reduced the operation from a hazardous and uncertain undertaking to one which is practicable by any surgeon of ordinary manual dexterity, and has rendered it available as an early remedial measure, instead of, as formerly, a desperate remedy, or a last resource." The presence of the fluid is not indicated by external physical signs, as separation of the ribs, bulging of the intercostal muscles, and depression of the diaphragm, till the lungs, the weakest structure, have been compressed into the smallest possible space, and probably rendered for ever impermeable to the ingress of air. These signs have in no case existed where Mr. Cock has been called upon to tap the chest. He regards the preternatural bulging and increased volume, when measured and compared with the other side, as "owing to the chest remaining in a state simulating that of permanent inspiration, and not, as erroneously ascribed, to a general expansion of the thoracic walls from the pressure of the fluid accumulated within:" the chest is, in fact, shortened in its dimensions from above to below, while it is expanded in its antero-posterior and lateral dimensions. In every case the existence of the fluid has been most clearly indicated at the lateral and posterior part of the chest, in a position somewhat central between the upper and lower boundaries; and he has "tapped below the angle of the scapula between either the seventh and eighth, or the eighth and ninth ribs, and at a point distant from one to three inches from the angles of these bones."

Previously to tapping he explores the chest with the instrument contrived by Dr. Babington for that purpose, which he greatly prefers to the grooved needle. "It consists of a needle contained in the smallest sized canula; this is passed between the ribs where the fluid is suspected; the needle is withdrawn, and the escape of fluid from the tube at once indicates the existence and the nature of the abnormal secretion. A farther investigation, as to the size and direction of the cavity, may also be obtained by introducing a fine silver probe through the canula."

The trochar and canula which Mr. Cock finds best adapted for the tapping itself is about $\frac{1}{12}$th of an inch in diameter, and about two inches in length, exclusive of the handle. This ensures a gradual evacuation of the fluid, and with proper precautions avoids the admission of air; air should always be sedulously excluded, from its tendency to give rise to a fresh attack of unhealthy inflammation in the walls of the cavity, and a fresh effusion of lymph on their surfaces. None of the instruments contrived to allow the escape of the fluid, and prevent the introduction of the air, have been found so well adapted to the purpose as the small trochar and canula here recommended. Figures of the trochar and explorator are given. The steps and precautions necessary for the success of the operation are minutely described: we have only space for the following remarks: "When a continuous stream can no longer be obtained by a more dependent position,

or by pressure made on the lower part of the chest by the hands of an assistant, the canula should be immediately withdrawn, and the opening closed while the chest is yet in the grasp of the assistant; for if he relax the pressure while the communication with the pleural cavity is still open, air will infallibly rush in. Independently of the direct injury which its presence may occasion, it would impede the restoration of permeability to the compressed lung, by preventing that tendency to a vacuum within, which the resiliency of the parietes will occasion when the pressure is withdrawn. The stream of fluid should never be allowed to become completely interrupted during the effort of inspiration, and the admission of the slightest quantity of air, as indicated by a peculiar sucking noise, is the signal for the prompt withdrawal of the canula. The operation is so simple, and so little painful, that it may be repeated whenever it seems advisable.

MEDICAL GAZETTE.

Friday, April 26, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO

ROYAL COLLEGE OF SURGEONS OF IRELAND,

THEIR LICENTIATES, AND THE MEMBERS OF THE MEDICAL PROFESSION GENERALLY, SETTLED IN IRELAND.

In a statement which was addressed to us very recently by the Registrar of the Royal College of Surgeons of Ireland, explanatory of the supplemental charter lately granted to the College by her Majesty, it is stated that the Government "took advantage of the opportunity to enable the College to constitute itself into a really national body, such as should be fitted to represent and to protect the interests of the entire surgical profession in Ireland, by granting the power to the council for one year of incorporating as fellows such practitioners as they may think entitled to the honour by their personal respectability and professional rank."

The Council of the Irish College therefore notify to practitioners in surgery desirous of being incorporated into the College, that they will receive applications to that effect until the 10th day of January, 1845.

Now it strikes us, that the course thus pursued by the Royal Irish College of Surgeons is open and honourable to themselves, respectful and considerate to the members of the medical profession settled within the limits of their jurisdiction – very few of whom, comparatively, have any connection with the College.

Let us see "the conditions according to which applications are to be made for reception among the number of Fellows of the Royal College of Surgeons of Ireland." These are few, and, with one exception, we conceive perfectly fair and proper; viz.:—

"1. That candidates shall lay before the Council evidence of their being qualified practitioners, or commissioned medical officers in the Army, Navy, or East India Company's service, of not less than seven years standing.

"2. That the applications of such candidates shall be supported by the recommendation of at least three Fellows of the College.

"3. That candidates shall state to the Council their willingness, should they be admitted Fellows, to make and subscribe the following declaration and affirmation as required by the Charter.

"I. A. B., do solemnly and sincerely declare that I am twenty-five years of age and upwards, and that I will observe and be obedient to the statutes, bye laws, and ordinances of the Royal College of Surgeons in Ireland, and that I will, to the utmost of my power, endeavour to promote the reputation, honour, and dignity of the said College, and that I do not now practise the business or profession of an apothecary, or druggist, or indirectly sell drugs or medicines, and that I will not, so long as I shall be Fellow of the said College, practise such business or profession.

"4. That the following fees shall be payable to the College by prac-

titioners who may be incorporated as Fellows :" which, as only of individual interest, we omit."

The sole difficulty we perceive in the above conditions is that which has reference to the renunciation of the business of the apothecary; by which we presume it is understood that no man shall be eligible as a Fellow, who has a surgery, however private, from whence he supplies his own patients, and them alone, with medicines.

Certainly we should like to see the profession of medicine in all its branches separated from the traffic in drugs and chemicals, and even from the business of privately furnishing medicines; but such a condition as this renders the whole of the proffered boon nugatory in the present constitution of the profession; and we venture to maintain that it is framed upon a false principle, and that as a general rule it is not defensible. The general practitioner, *i. e.* the member of a Royal College of Surgeons, and licentiate of an Apothecaries' Company, who supplies his patients with the medicine they require, is the representative of the medical profession at large, in the eye of the community; and he is so under the sanction of the law: he could not exercise his calling according to the wants of society without a license from the Apothecaries' Company: he was liable to prosecution if he did.

Now it is obviously absurd to frame new laws that shall not meet the state of things created by old enactments? If I have been compelled upon a particular line of life by existing laws, shall I be made obnoxious to degradation,—to moral punishment, the worst punishment of all to bear, for having obeyed them? The thing cannot, must not be. And then, we would ask whether there was in fact aught disreputable in any man of liberal professional education sending to his patients from his own house the medicines which he had himself prescribed? Such a man is no *petty trader*, no *dealer* in drugs or medicines, and it were both unjust and impolitic publicly to cast a slur upon him, which in private is unrecognized. Everywhere physicians and surgeons have general practitioners at their houses as their guests, and among the number of their intimate friends; these general practitioners in their turn entertain, and are on the most familiar terms, with physicians and surgeons. It is only in the three capital cities of the three divisions of Great Britain that any such person as a *pure* surgeon exists; and in one of these his appearance is even of very recent date. In the city of Edinburgh, no more than twenty years ago, every Member of the Royal College of Surgeons had a private surgery, and supplied his own patients with their medicines. From the ranks of these gentlemen, however, were elected the surgeons to the Royal Infirmary, who did all the capital operations, and were in every respect upon a par with our metropolitan hospital surgeons. Benjamin Bell, whose System of Surgery, and book on Wounds, were for half a century and more classics not only in this country, but over the whole continent of Europe, supplied his patients with their medicines. John Bell, the most brilliant surgeon of his age, the ablest writer of his day, did the same; and so did all his contemporaries and successors down to the time of Mr. Liston, who was the first Edinburgh surgeon who had no surgery in his house. The surgeons to all our provincial hospitals are general practitioners. The late Mr. Hey, of Leeds, supplied his patients with the medicines they required; the present Mr. Hey, of Leeds, does so; and so, to the best of our knowledge and belief, do all our extra-metropolitan surgeons without exception.

Having said so much, we think we have said enough to satisfy every un-

prejudiced mind, that the general practitioner, with his private surgery, and whose apprentice or dispenser compounds his prescription, is every whit as good and as respectable a man as he whose recipe goes to the next chemist and druggist's shop: for this is the whole and sole difference between them in fact. If the matured physician or surgeon, with his grey hairs and failing teeth, and fast decaying powers, feels that he is not paid with less than the customary fee, has he forgotten that when he was a younger man, unless fortune had been all the kinder to him, he was not so scrupulous in reckoning the number of his visits between the receipt of one fee and that of another? But many of the general practitioners of the present day make a regular, moderate charge for their visits, and supply the requisite medicine gratis: they do, in fact, what every expectant young surgeon and physician is compelled to do in the beginning of his career.

Such distinctions as are essayed to be kept up by the conditions annexed to eligibility to their fellowship by the Council of the Royal College of Surgeons in Ireland, are absurd in themselves, indefensible in principle, and highly injurious in effect; they do the whole profession incalculable mischief. By making the fellowship inaccessible to the general practitioner, *whom the wants of society have made, and will still continue to make*, the vast majority of medical practitioners, the representatives of the medical profession in the eye of the public at large, are virtually degraded, by being declared unworthy of assumption into the highest grade of the branch which they practise, and there can be no question of the deteriorating influence which such a state of things must have upon their intellectual and moral state, as a reflex of this, upon their social position, and, as a final effect of all, upon the estimation in which the entire body of the medical profession is held with the world at large.

It were a poor vanity that should make circumstance or accident a ground for lording it over many gentlemen with whom we have the pleasure of being upon terms of intimate friendship, and who practise generally in London. If these gentlemen do not hold themselves in readiness at a moment's notice to undertake difficult and delicate operations, it is only because they have been accustomed to have a Cooper and a Brodie at their elbow, in the daily habit of using the knife;—their education and their knowledge still fit them to do all that any professional man can be required to do; their conduct in life makes them beloved and respected wherever they come. We are therefore sincerely happy, on referring to the charter of the Royal College of Surgeons of England, to observe that elevation to the fellowship there is clogged with no such condition as that which is grafted upon the supplementary charter to the Irish College. The Fellows may agree among themselves that they will not make councillors of those who practise generally; this is matter of comparatively private arrangement, it is no public stigma.—The time and attention that must necessarily be given, in these days, to the business of the Councillor's office, would ill assort, indeed, with the laborious duties of the general practitioner. But he surely is not disqualified, either by acquirement or position, from exercising the rights of elector either to the Fellowship or the Council. Let traffickers in drugs, and petty retailers of medicines, with their red and blue bottles, and gas-lit open shops, be excluded by all means from what ought to be held the *professional grade* in the Royal College of Surgeons, whether of Ireland or of England; but let not the private supply of medicine prescribed by the individual himself be any bar to his admission to the worthiest place

TO OUR FRIENDS.

We own that we lend our space to accounts of personal differences, to disputes about priority, &c. between members of the profession, reluctantly. It is sometimes just and necessary to do so nevertheless, and it is done. We would suggest, however, that points of extreme interest to the parties concerned, are rarely so to the profession at large; that differences which look like mountains vast and gulphs impassable to the individual, are commonly mere mole-hills and gutters in the eyes of the world at large. The world wants light; it is each man's part to do his best to bring it: he may fairly trust the world with giving him credit for his exertions and successful efforts. If any other man attempt to strip him of his plumes, the thievish daw is soon detected, and turned out naked not only of all the feathers he had *borrowed*, but often of those that grew from his own flesh. In the column that is occupied by a letter from Dr. A. or Mr. B., complaining that Mr. C. or Dr. D. had not done him justice, we could often put an interesting case, or pack a piece of positive or more speculative information, that might prove as seed cast on the waters, or trusted to the winds, but destined by and by to find a congenial spot in which to take root and attain maturity, producing leaves and flowers and fruit.

These hints we throw out to some of our friends whose countenance we prize, whose support is needful to us, but whose differences and *reclamations*, as the French call them, we deprecate. They will serve as acknowledgments also of several letters which we shall keep safe in our drawer, unless we hear more particularly from their writers.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, April 23, 1844.

The President in the Chair.

On Paracentesis Thoracis as a curative measure in Empyema and Inflammatory Hydrothorax. By Hamilton Roe, M.D. Physician to the Westminster Hospital.

The author commenced his paper by alluding to the very generally received opinion of the uselessness of paracentesis thoracis as a curative measure in the treatment of pleuritic effusions, as founded upon the supposed facts, that reaccumulation of fluid necessarily takes place after its withdrawal by the operation; that the frequent repetition of tapping subsequently demanded in those cases in which life had been prolonged by it, was only sufficient for the alleviation of certain urgent symptoms; and lastly, that recorded experience is completely opposed to the employment of the operation. His own experience had induced the author to dissent from these opinions, and a careful examination of the cases recorded by various writers during a period of thirty years had supported him in the correctness of the results at which he had arrived. Of 39 cases recorded in the British medical journals between the years 1812 and 1842 (a period selected as that in which an acquaintance with auscultation had rendered the diagnosis more accurate), in all of which paracentesis had been had recourse to, he had found that eleven only died. Twenty-four cases had occurred to himself; and the chief object of the author was to prove, from the results he had obtained, that the operation is as free from danger as any other performed upon the human body; that most of the evil consequences supposed to attend it are far more imaginary than real; that it is commonly successful when employed at an early stage of either empyema or inflammatory hydrothorax, and the common cause of failure is to be found in the late period at which it is alone regarded as admissible.

The author next proceeds to notice at length the objections of certain writers to the treatment of empyema by operation, and opposes the opinion that the ultimate removal of pleuritic effusion must depend upon the action of the absorbents, and observes, "that the proper function of the absorbents is to carry off the ordinary healthy secretion, but not a diseased one; that their power may be sufficient to take up the quantity usually secreted, and yet wholly unequal to take up many pints added to it;" and that it is at least very probable that the action of the absorbents becomes paralysed partly by the over-distension of the membrane in which they are situated, and partly by the general prostration of strength produced by the great suffering, and the disturbance which the other functions undergo from the pressure upon vital organs. These views were supported by a case of inflammatory hydrothorax, in which the withdrawal of a small quantity of fluid from the chest was sufficient to lessen the mechanical pressure upon the absorbent vessels, and thus to enable them to reassume their healthy action, and by which the great bulk of the fluid was subsequently removed.

With reference to the supposed dangers of the operation, the author had been unable to find one case on record in which mischievous results have occurred. In his own practice no precautions had been employed to prevent the admission of air into the

pleural cavity, but no bad results had followed; and even in one case (the only example of the kind) in which the air failed to be absorbed with the rapidity commonly observed, it had been readily withdrawn by means of a syringe, the wound made in tapping the chest having been healed. But although the accidental admission of air at the time of the operation was never productive of bad effects, yet its continued entrance, in those cases in which a fistulous opening had been made into the pleura, had very commonly been followed by mischievous results: the author was therefore strongly in favour of the complete removal of the fluid, and the immediate closing of the aperture. Although it was difficult to determine what length of time might, without danger, be allowed for the exhibition of internal remedies, yet, from his own experience, the author was induced to believe that, in the general class of cases, three weeks is the longest period that can with safety be permitted to elapse before the withdrawal of the fluid. In none of his own cases had complete restoration of the lung resulted after it had been subjected to the pressure of pleuritic effusion for six weeks. It was important to understand rightly the exact state understood by the term "cured empyema," much of the difference of opinion relative to the propriety of tapping the chest depending upon the varied manner in which such expression is employed. Thus, in the posthumous essay of Dr. Hope, a long list of cases of empyema are recorded, in which the continued action of mercury was followed by "cure." In the essay in question, however, it is not stated that, in any one case, the lung had been restored to its healthy condition. By the early employment of paracentesis, those changes in the pulmonary tissue by which its expansibility is destroyed, are prevented; and thus not only is the removal of the pleuritic effusion effected, but the lung also restored to the full performance of its function.

The author next describes at length the morbid changes produced in the pleura by the long continuance of purulent collections, more particularly alluding to the manner in which the pleural sac becomes ultimately obliterated in chronic cases of empyema in which the effusion has been very slowly removed, and at a late period. As one of the secondary effects, he had also observed that tubercular disease of the opposite lung not unfrequently occurs in old cases of empyema. Amongst the several changes produced in the lung during the existence of pleuritic effusion, the most important were those by which it was rendered subsequently incapable of expansion. In old cases of hydrothorax the author had observed such effects to result from condensation of the pulmonary tissue, which was often so complete as to prevent even partial expansion by the artificial introduction of air. In the cases in which purulent secretion had resulted, it had been frequently found that the pleura had become wholly altered in character; in some cases adherent to the parietes of the chest, in others greatly thickened and contracted, and so binding down and compressing the lung as to render its restoration impossible.

Twenty-four cases had occurred to the author, which had been treated by paracentesis thoracis; of these eighteen recovered, and six died. Nine of them were cases of purulent effusion, of which eight recovered, and one died. Thirteen were cases of inflammatory hydrothorax, of which nine recovered, and four died. One was a case of hydrothorax dependent upon cardiac disease, in which relief was afforded by the operation, and the remaining case was one of pneumothorax, having a fatal termination.

In conclusion, the author remarked on the comparative value of certain physical signs, alluding to one of them, namely, the distension of the intercostals, as a differential sign, serving to mark the character rather than the quantity of the contained fluid; he had repeatedly found that retraction of the intercostals had existed with a very large amount of pleuritic effusion, and on the other hand, that very distinct bulging of those spaces had been present with a very small quantity of fluid. In the former class of cases the fluid had been serous, in the latter purulent, and he was disposed to adopt the opinion of Dr. Stokes, and of some of the older writers, who believe that the projection of the intercostals depends upon the purulent character of the effusion. The inability of patients affected with pleuritic effusion to lie upon the healthy side, had not been observed to accord with the opinion commonly expressed in systematic works; but that the contrary rule obtained in nearly one half of the cases. It was somewhat remarkable that the disease more commonly existed on the left side of the chest, and of the twenty-four cases adduced by the author, the ratio had been as two and a half to one.

Account of a case of Empyema which recovered after repeated punctures of the pleural sac. By THEOPHILUS THOMPSON, M.D., Visiting Physician to the Hospital for Consumption and Diseases of the Chest.

IN the summer of 1843, Dr. Thompson visited, with Mr. Robarts, of Great Coram Street, a little boy, between five and six years of age, who had suffered for two months from febrile symptoms.

On examining the chest, conclusive indications were observed of purulent effusion in the right side, and the operation of paracentesis thoracis was performed on the 27th of June. The puncture was made through the

fourth intercostal space, and fourteen ounces of pus were withdrawn; various precautions being adopted to prevent as much as possible the access of air. On the 30th June the operation was repeated, and about a pint of matter withdrawn. The relief obtained, although very considerable, proved only temporary; notwithstanding the use of appropriate remedies, the accumulation was renewed, and on the 10th of July the operation was performed for the third time, twenty ounces of pus being removed. After the performance of the fourth operation on the 21st of July, when twenty-two ounces of thick but not fetid matter were removed, the boy improved in strength, and the excess in girth of the right side of the chest over the left was materially reduced. On the 28th of July, the puncture which had been for some days perfectly healed, opened spontaneously, and within twenty-four hours gave exit to about four ounces of pus. After three days the discharge ceased, but above the seat of the two last punctures a swelling was found about two inches in length, at the posterior part of which, an aperture discharging matter appeared. On the 16th of August both openings were discharging, the anterior spontaneously, the posterior when pressed. The local symptoms gradually became more favourable, and the general health improved, so that in September the boy was able to walk out. The right side of the chest contracted, and in the month of November was an inch and a half less than the left in circumference. A partial healing of the aperture being followed by some aggravation of the symptoms, it was determined to attempt the gradual emptying of the sac and approximation of its sides. This object was successfully obtained by means of plugs made of sponge firmly tied with pack thread, and saturated with wax. Matter which was to the last inoffensive was thus repeatedly removed from the cavity. The opening healed about the end of January, and the boy has since remained perfectly well.

The author remarks, that although *serous effusion* into the pleural sac is frequently removed with little assistance from medical treatment, yet that in cases of considerable *purulent* effusion there is little hope of relief without an operation, which in most instances should be performed *early*, without losing time, and hazarding strength, by the use of mercury and diuretics. He argues that puncture of the thorax involves no circumstance of peculiar hazard, provided suitable precautions be adopted. Amongst these precautions he urges the expediency of repeating the operation in preference to removing a large quantity of pus at once, and especially insists on the conclusive evidence which recorded cases afford, that the practice of leaving a canula in the wound is highly detrimental, in consequence of the increase of pleural inflammation and decomposition of the inclosed matter, owing to the *long continued* contact of atmospheric air.

Dr. Williams wished to be informed whether the ages of Dr. Roe's patients were stated, and what the mean age of the whole number was; the age of a patient being a very essential element in his chance of recovery from such an operation as paracentesis thoracis. Dr. Roe said that very few of the patients were under 20, several of them over 30. Dr. Williams's impression was against the operation of paracentesis thoracis; he had seen it done repeatedly some years ago, but with such uniformly unsuccessful results that it fell into disuse; nor had later experience offered much to remove his objections to it; but in these cases no adequate measures had been taken to exclude the air from the cavity of the chest. He adverted to the recoveries that frequently took place in cases of effusion into the cavity of the thorax, where no operation was performed: to one in particular, of a lady, where there was great effusion, and such oppression of breathing that suffocation was imminent. Nevertheless this patient recovered satisfactorily, and under the use of very little medicine. Neither did he think that performing the operation at an early period gave any security for its more successful issue—he had seen it fatal whether performed at an early or a late period after the attack. There was great and immediate relief experienced from the operation, but it was not permanent He thought that the entrance of air after or in the course of the operation into the sac of the pleura, had a most detrimental influence; that the air was apt to occasion a greater amount of pressure than the fluid which it replaced; and secondarily, that by its contact with the matter of the effusion, it produced changes in this which soon rendered it offensive, and the cause of irritative fever, under which the patient almost certainly sunk. He drew a distinction between the effects upon the intercostal spaces of the effused fluid: if it was purulent, there was bulging of these spaces; if it were simply serous, there was no bulging. The diagnosis was further assisted by the general symptoms: with empyema there was hectic, rapid pulse, more of the cachectic countenance than with simple serous effusion. Whilst, with the purulent effusion, he would not oppose paracentesis thoracis, he should not readily yield to the proposal for its performance when he believed that the effusion was simply serous; the natural recoveries that took place from effusion of the latter kind warranted this distinction. He spoke of various means and contrivances which had been adopted and imagined, to prevent the ingress of air by the canula. The operation had been performed at Berlin,

the patient being placed in a warm bath at the time; Skoda, of Vienna, had contrived a valvular canula, which, whilst it permitted the freest issue to the fluid, opposed any attempt of the air to enter the chest; others had merely armed the outer end of the canula with a piece of the small intestine of a fowl, which being placed in a vessel of water, acted as a valve, preventing the entrance of air. He thought that a tonic and restorative plan of treatment was, on the whole, more successful than a treatment with mercury, or diuretics, or purgatives, or indeed antiphlogistic medicines of any kind.

Dr. Mayo remarked upon the combination of calomel and quinine, which had been exhibited in Dr. Thompson's case, with the effect of disordering the patient's bowels and making him worse than he was. He did not approve of such incongruous or *antagonistic* combinations of remedies. Medicines which mutually aided each other in their actions were with propriety conjoined; but he did not understand the principle upon which calomel and the sulphate of quinia could be exhibited mixed together.

Dr. Cursham inquired as to the accuracy of the diagnostic symptom between serous and purulent effusion, laid down by Dr. Stokes, and quoted by Dr. Roe, viz. that there was bulging of the intercostal spaces in empyema, and not in serous effusion.

Dr. Thompson had observed that the bulging of the intercostal spaces existed indifferently, or did not appear at all, in cases of effusion of serum as well as of pus. Whilst he believed that the operation for paracentesis might frequently be had recourse to with decided propriety and advantage, he would by no means lay it down as the general rule, that whenever there was fluid effused into the pleura, the chest was to be tapped, and the fluid evacuated. He had seen several cases in which rapid recovery took place in spite of very large effusion into the cavity of the thorax; sometimes, too, the recovery happened under a purely palliative and expectant treatment, and after more vigorous practice had totally failed. He held the admission of air as likely to prove highly prejudicial, and should regard the operation done without any precautions taken to guard such an occurrence as an abuse rather than a right use of paracentesis. He defended the simultaneous employment of mercurials and mild tonics.

Mr. Phillips had been called upon to perform the operation of paracentesis thoracis some fifteen or sixteen times; but he must say he had seen no benefit from the practice: after five or six months not one of the patients who had been operated upon was in life. There was the immediate and great relief that had been signalized by other speakers on the question; but it was only temporary. He did not think the entrance of air into the cavity of the chest, through the canula, of any consequence; it was soon removed by absorption: the chest, immediately after the operation, might sound like a drum; in a few hours, the air, and along with it the tympanitic sound, were gone.

Mr. Hewitt had seen the operation of paracentesis repeatedly performed, but never yet with success. He adverted to the effusions of lymph with which the majority of the cases of serous effusion into the pleura, that would be held subjects for the operation, were complicated: the presence of this lymph he held a serious bar to the success of the operation: in one case he had found both surfaces of the pleura covered with a layer of lymph several lines in thickness, and so tough that he could not burst it by blowing into the lung with a pair of bellows; he had to make several incisions through it before he could inflate the lung. He mentioned a particular case, where effusion, in consequence of pleuritic inflammation, had taken place, and in which the effused fluid (pus) had made its way out by perforating one of the bronchi. The patient gradually recovered, and went on leading an irregular life for several years, always troubled with cough, and always expectorating freely. He finally died suddenly from hæmoptysis. A large cavity was found on one side full of pus, communicating with one of the bronchi of the corresponding side. The fatal hæmoptysis had been induced by the extension of ulceration from the fistulous passage to one of the larger pulmonic vessels, which was thus opened.

Mr. Lloyd had little to say in favour of paracentesis thoracis for empyema: where he had seen it performed the patients had died: he only recollected a single case of recovery under effusion into the pleura where the cavity of the chest was perforated, and here nature was herself the surgeon—she established the opening for herself. He adverted to certain cases in which there is every appearance of effusion into the pleura, in which the matter is nevertheless external to its cavity. One of these cases was of diseased spine—matter had been formed in large quantity, and had diffused itself extensively under the parietes of the chest, so as to simulate empyema.

Dr. Alexander Stewart, of Glasgow, spoke in favour of the operation, and he particularly defended the practice of giving antagonistic medicines under certain circumstances which he specified.

Mr. Arnott on the whole thought favourably of the operation of paracentesis; he had done it on the behest of his colleagues, the physicians of the Middlesex Hospital, several times, and if sometimes unsuccess-

fully, sometimes also successfully, and in circumstances where, without it, the patient must necessarily have died. He thought it better not to be too anxious to draw off the whole or even a large portion of the effused fluid at once—he had, however, yielded to the anxiety displayed by others to have the chest effectually cleared of fluid—upon one occasion he had removed nine pints of serous fluid—which of course cannot be effected without the entrance of air into the pleura; from this, however, he had never seen any ill effects; the air is in fact very rapidly removed. We should be no more solicitous about the effects of air finding its way into the cavity of the chest after the operation of paracentesis, than we are about that which escapes into the same cavity and surrounding cellular tissue in cases of fractured ribs. With regard to the administration of what Dr. Mayo had characterized as antagonistic medicines, he did not much heed what might be said on theoretical grounds; in practice the plan answered well. In Middlesex Hospital he treated successfully many bad cases of pox in shattered systems by the very compound that had been called in question—mercury and quinine, which he felt persuaded he could not well have dealt with, had he had only one of these medicines at his command.

Dr. Webster advocated the operation of paracentesis, but not from experience, for he had only seen it done in one case, and that died. He illustrated the practice of giving antagonistic medicines, by the daily usage of ordering an acid and an alkali, which, as all the world knew, mutually neutralized one another.

Dr. Mayo explained.

Dr. Kingston thought that the success of the operation of paracentesis was mainly influenced by the period at which it was done: performed in a patient worn out with protracted suffering, it could not be expected to succeed; undertaken at an earlier period, and before the strength of the patient was broken, he thought there was every thing, both on pathological grounds, and grounds of experience, to recommend it.

The President adverted to the rules laid down in regard to the place at which the operation of paracentesis ought to be performed, and quoted two cases from Laennec, in which very disastrous consequences followed from venturing to puncture between the fifth and sixth ribs, reckoning from below upwards — the diaphragm having been wounded in one, the kidney in the other. For his own part, he had performed paracentesis in two instances so low down as between the ninth and tenth ribs, guided to the spot by the assurance of his colleagues, the physicians of St. Bartholomew's Hospital, that there the indications of the presence of fluid were most unequivocal, and in both instances he neither encountered difficulty, nor did the patient sustain any injury. He had performed paracentesis in five instances; in three the result was favourable, in two it was unfavourable.

Dr. Roe summed up, defending the positions he had taken in his paper, and upholding the operation of paracentesis against the arguments and facts of those who thought less favourably of it than he did himself. He thought he was borne out by the general tenor of the discussion in attributing the frequent fatality to the admission of air within the cavity of the pleura, and to the late period of the disease at which the operation was had recourse to. He totally dissented from the opinion expressed by Dr. Williams that the air exerted more pressure on the already compressed lung than the fluid removed. In all instances, save one, the signs of the presence of air within the chest had quickly disappeared, and in that the unpleasant symptoms were easily removed on the (?) day, by the employment of a common exhausting syringe. His patients were mostly between 20 and 30 years of age, and in one instance, in answer to Mr. Arnott, he stated that as large a quantity as eight pints of serous fluid had been removed. He had not advised the operation in all cases of pleuritic effusion, but only in certain cases where medicinal agents seemed inadequate to effect its removal; and then he thought it should be employed early, and before the lung become so bound down as to be incapable of again expanding and resuming its function.

The next meeting will be held on Tuesday, May 14th, 1844.

MICROSCOPICAL SOCIETY.

April 17th, 1844.

J. S. Bowerbank, Esq. F.R.S. in the Chair.

A paper was read by John Quekett, Esq. F.R.S. on some phenomena connected with the movement of the cilia in the common mussel (*mytilus edulis*). After some observations on the nature of ciliary movement in general, and on the various opinions of former observers respecting it, the author stated that, in the common mussel, the cilia occur on the branchiæ or gills, which are four in number, two layers being situated on each side, between the lobes of the mantle. Each layer consists of rays of vessels running parallel to each other, like the teeth of a comb; and the cilia are situated on the margins of the rays, there being two rows to each ray. The observations in the paper relate more particularly to the motion of the cilia on the sides of the inner layer of the gill ray. If one of these rays be placed, with

the inner side upwards, on the object plate of the microscope, each row of cilia will be found to present, besides the usual curved, whip-like motion in a vertical plane, another slight but yet important movement on itself in a direction nearly at right angles to the preceding, extending through the space of a quarter of a circle, the motion being analogous to that which is effected by the quill feathers in the wings of birds, or, to use a more common example, by the "feathering" of the oar in rowing. In order to observe this movement in the most satisfactory manner, the motion of the cilia should have nearly stopped, and that part of the cilia attached to the gill, which may be termed the root, being examined with a power of at least 400 linear, this peculiar motion will be easily perceived. Mr. Quekett considers that the propulsion in one direction of the fluid acted on by the movement of the cilia, is chiefly effected by this peculiar arrangement; indeed, without some arrangement of the kind, motion of a fluid in one determinate direction could not have been effected.

ON THE CRYPTOGAMIC VEGETABLE

WHICH CONSTITUTES THE CONTAGIOUS DISEASE DESCRIBED UNDER THE NAMES *Teigne Tondante*, or *Herpes Tonsurans*, (*Porrigo Scutulata*, WILLAN; *Trichosis Scutulata*, WILLIS.) BY M. GRUBY*.

THE affection spoken of here is that with which we are so familiar in England, characterised by the partial loss of the hair in patches, and the formation, in the places denuded, of rounded areas covered with small whitish scales, and little asperities, similar to those presented by the healthy integument exposed to cold, and called *goose-skin*. An attentive examination of fragments of the hair from a patch affected in this way, shows the tissues of the hair filled with cryptogamia, and still covered with the epidermic scales when the interior is full of sporules. The sporules are round, oval, transparent, colourless, smooth on the surface, and full of a homogeneous matter; the cryptogamic plants themselves arise in the interior of the roots of the hairs, under the form of a mass of round sporules, from whence a crown of articulated filaments is gradually developed, which, in their growth, creep along in the interior of the hairs in lines parallel to their axes. As the hair grows, the cryptogamia which it includes in its interior grow also, until the shaft has passed beyond its follicle. The quantity of sporules is so great that they fill the substance of the hair completely, and fairly make its proper structure invisible.

The development of cryptogamia appears to begin in the roots of the hairs; these are the parts first affected, at all events, and they may often be found opaque, full of sporules, and altered in appearance, the rest of the hair being quite healthy. As the parasitic plants grow, the hair becomes more and more opaque, and when they have completely pervaded its structure, it is grey, opaque, possessed of little elasticity, and so brittle that the slightest touch suffices to break it; it is farther increased in diameter; but although thus seriously implicated it still continues to shoot. The hairs generally break off short at the distance of a few lines from the surface of the scalp; sometimes they break before they have escaped from their sheaths, and then the little canal which would have given them passage becomes plugged up with sebaceous matter, which hardens by exposure to the air; and this mass, carried forwards upon the point of the hair, forms a somewhat opalescent elevation, which has often been mistaken for a vesicle; it is a mass of dried sebaceous matter, mixed with epithelial scales in large numbers, and traversed by one, two, or three weak coiled-up hairs full of sporules, or supported upon an hypertrophied stump in the same condition. These are the elevations which give to the affected part the appearance of goose-flesh.

The parasite whose evolution constitutes this porrigo, or trichosis *scutulata*, differs entirely from that which causes the porrigo, or trichosis *decalvans*. That of the former presents itself in the form of chaplets of sporules, and very rarely extends into branches; that of the latter, on the contrary, is numerously branched, waving, and the sporules are placed on its sides; in the porrigo scutulata the sporules are turgid, and fill the roots and shafts of the hairs; in the porrigo decalvans they are extremely minute, and are situated on the exterior of the hairs, which they surround as with a true sheath. In porrigo scutulata the sporules are formed and developed under the skin in the piliferous follicles; in the porrigo decalvans, again, they are only evolved on the part of the hair which has passed the surface.

* Comptes Rendus, No. 14, 1 Avril, 1844.

NOTE ON CERTAIN CRYPTOGAMIC VEGETABLES,

DEVELOPED IN GREAT QUANTITIES IN THE STOMACH IN A CASE OF DYSPHAGIA AND CHRONIC VOMITING. BY M. GRUBY*.

PARASITIC plants have now been detected upon the mucous membranes of the living body in many situations, particularly upon the aphthous mouth of infants. In a patient who had suffered eight years from dysphagia, and constant inability to keep food on her

* Comptes Rendus, Avril 1, 1844.

stomach, considerable quantities of white angular fragments were very regularly observed. These, brought under the microscope, were found to consist of agglomerations of round or oval sphorules, transparent, smooth on the surface, homogeneous, smaller sporules being occasionally seen on the surface of larger sphorules, as in the *torula cerevisiæ*, or yeast plant. The food of the patient was carefully examined for several days in succession, and found to contain no cryptogamia. By means of an œsophagus tube, fitted with a sponge in the interior, which could be made to project and absorb the moisture of any point of the œsophagus or stomach, it was satisfactorily ascertained that the cryptogamia in question were produced in the lower third of the œsophagus and in the stomach. No perfect plant was obtained; only sporules in masses, and fragments of filaments; so that the species could not be ascertained. This much was made out, however; that the parasite here had no resemblance to the trichosporum of aphtha.

WESTMINSTER HOSPITAL.

REPORT OF CASES, WITH REMARKS.

By Benjamin Phillips, Esq.
Senior Assistant Surgeon to the Hospital.

Fractured Ribs, with Injury to Lung.

Samuel Poole, æt. 32, a wine-cooper, admitted Feb. 28, at a quarter past seven, A.M. having been jammed between a cart and a waggon. On examination, several of the ribs were found fractured, and being in a state of collapse on admission, six ounces of brandy were administered during the night to produce reaction.

At 10 o'clock, A.M. of the 29th, the breathing was very hurried, 76; face livid; pulse 138, hard and jerking; expectoration nearly pure blood, but mixed with frothy mucus; sound on percussion tympanitic, particularly under the scapula of the left side, and air could be felt under the skin by the finger, imparting a crackling sensation. Was bled to ℥xvj. and a dose of castor-oil given. At 1 P.M. was seen by Mr. Phillips, and was then no better. Ordered to be again bled, and to take the following powder directly—

℞ Ant. Pot. Tart. gr. ¼; Mag. Sulph. ℥j.; Aquæ puræ, ℥j. every six hours.

At 5 P.M. breathing better, 54; pulse 128, much softer.

March 1st, 10 A.M.—Considerably better; breathing 42; pulse 124, soft and compressible; expectoration less bloody; had not slept much during the night; cough troublesome; at 2 P.M. breathing 40; pulse 110.

2nd.—Respiration 36; pulse 96, soft; cough less troublesome; slept well; expectoration free from blood. Cont. Med.

3rd.—Respiration 46; pulse 98; cough troublesome; slept well.

4th.—Slept well; respiration 38; pulse 96, compressible; has coughed a good deal; expectoration slightly tinged with blood.

℞ Hyd. Chlorid. Pulv. Antim. aa. grs. ij. ft. Pulv. nocte maneque sumend.

5th.—Doing well; pulse 84; respiration 36; cough troublesome.

6th.—Pulse 78; copious expectoration, streaked with blood.

7th.—Pulse 76; better; respiration 30.

8th.—Pulse 84; gums rather sore; complains of pain upon coughing in the left side and beneath the scapula.

9th.—Pulse 86; cough troublesome; respiration 44; mouth very sore; complains of sickness and pain in the stomach; no appetite. To discontinue the Hyd. Chlorid. and take the following draught every six hours.

℞ Pot. Carb. ℥j.; Acid. Hydrocyan. ♏ij.; Mist. Camph. ℥j. M. ft. Haustus.

10th.—Sickness relieved, but cough is very troublesome; pulse 88, small.

11th.—Still pain on inspiration; had not slept during the night on account of the cough being very troublesome; pulse 86.

App. Emp. Lyttæ lateri. Cont. med.

12th.—Much relieved by the blister; cough better; pulse 80, soft.

13th.—Better.

14th.—Pulse 96; cough troublesome at night. To have a cough mixture: a dose to be taken frequently.

16th.—Cough troublesome, with pain in left side; pulse 104.

Rept. Empt. Lyttæ.

17, 18, 19.—Much the same.

21st.—Considerable dulness on percussion on the left side as high as the third rib, and he is unable to lie on that side; cough troublesome.

Rept. Emp. Lyttæ.

24th.—Improving; less dulness; cough better.

28th.—Continues much the same; cough keeps him awake at night.

31st.—Sound on percussion clearer; cough better. To have full diet.

April 6th.—Much the same as at last report.

Rept. Emp. Lyttæ, and to take Hyd. Chlor. grs. ij. nocte maneque.

10th.—Mouth rather sore, but greatly relieved; can now lie on either side; cough better. Cont. Med.

12th.—Improving fast, but mouth sore. To take one powder at night only.

14th.—Better.

16th.—He left the hospital, greatly relieved.

Remarks.—The preceding case was one of fractured ribs, with severe injury done to the lung by the fractured bones. The lung was perforated; the air escaped into the pleural cavity, as was shown by the drum-like sound on percussion; a certain portion of air made its way into the cellular tissue, and occasioned on the application of pressure a crackling sound. When seen at 1 o'clock on the 29th of February, the symptoms were so severe that but small hope of his recovery could be entertained. The pulse was rapid, but weak; the respiration was extremely hurried and embarrassed. A vein was largely opened, and the effect of the loss of blood carefully watched. The oppressed pulse was gradually relieved, it became less and less laboured, but the blood continued to flow until syncope was very imminent. He was then brought under the influence of tartar emetic, and the symptoms of pneumonia rapidly subsided. When the acute symptoms were completely relieved, there remained evidence of consolidation of the pulmonary tissue, and of fluid (blood or other) in the chest. The patient was then subjected to mercurial action, with decided benefit, but it was still evident that fluid remained, and blistering was resorted to with much relief. After a time, the pulse still keeping up, further mercurial action was induced, and the amendment was very striking.

Œdema Glottidis; tracheotomy; death.

A. B., aged 20, was admitted into Percy Ward, with acute synovitis, for which a number of leeches were applied. Erysipelatous inflammation followed the application, which under common fomentations and saline medicine gradually abated. Her pulse, however, maintained its frequency, with some feverish excitement. She remained in that state some days, when she began to complain of some soreness of the throat, which rapidly increased, and the next morning it was accompanied by difficulty of breathing, which became every hour more threatening.

At 1 o'clock a consultation was held upon the case: 24 leeches were applied to the throat, but they produced no relief: the dyspnœa increased, and tracheotomy was determined on. Mr. Phillips performed the operation at once: every step of the operation went smoothly, and instead of the violent efforts which were previously necessary, the respiration became perfectly quiet, but she gradually sunk, and died in the evening.

Upon a post-mortem inspection next morning, the organs found diseased were the lungs, the pharynx, and the larynx. There was diphtheritis, or pultaceous inflammation of the pharynx; it extended to the glottis, and produced œdema glottidis of so decided a character, as to completely block up the opening. The lungs were thoroughly gorged with blood, but there was no structural change in any part of their substance.

Remarks.—It may be asked in this case, as the relief to the breathing after the operation was so marked, why did the patient die? It might be maintained, with some show of likelihood, that her life was so far prolonged, merely by the stimulus kept up in the exaggerated efforts to breathe, a kind of death struggle, and that when the effort was no longer necessary, the stimulus was no longer conveyed, and the blood accumulated in the lungs until the patient died asphyxiated; or otherwise, and probably with more of physiological truth in the supposition, it might be said that the struggle so long continued for breath, and the amount of muscular effort required to fetch it, combined with the imperfect decarbonization of the blood, produced such a degree of exhaustion, and impaired so seriously the processes upon the aggregate of which life depends, that the free supply of air came too late; the system could not recover itself, and death happened just as if nothing had been done. There is, perhaps, no operation which the surgeon is called on to perform, which he does with more reluctance than that of tracheotomy, in cases like the present; for it almost always happens that his services are not required until irremediable mischief is done to the lungs. In the present case, the operation was too long delayed; there seems little doubt that had it been done three hours earlier, the patient's life might have been saved.

Hemorrhoidal excrescences; prolapsus ani; ligature of tumors; cure.

George Wear, æt. 37, gardener, admitted into Mathew Ward, Dec. 27, 1843, with hæmorrhoids and protrusion of the rectum. States that he has had piles upwards of fifteen years, and that during the first few years they bled occasionally. In 1834, he consulted a medical man, who scarified the gut, and applied some species of escharotic. He attended this surgeon for 18 months, and derived considerable relief, then had no medical assistance for several years, when they again became very troublesome, and he was advised to apply leeches and fomentations, which afforded temporary relief only. He continued thus until they became so painful as not to permit him to follow his employment, and the protruded mass could not be kept up at all. He then came to the hospital.

Dec. 30.—Mr. White scarified the rectum, and ordered him to take the following draught—

℞ Tr. Opii ℥xxv. Mist. Cretæ, ℥ijs.

Jan. 6.—He was again scarified, and the draught repeated. The scarifications were continued once a week up to

Feb. 12, when Mr. Phillips ordered him a dose of

Hyd. Chlorid. followed in two hours by Ol. Ricini, ℥ss.

13th.—Mr. Phillips applied a ligature on one of the projecting masses, and ordered him to take

Conf. Sennæ, ℥j. omni nocte.

March 2.—Great deal better, a small portion only protruding, to which a ligature was applied.

Cont. Conf. Sennæ.

12th.—States that whilst at stool a small portion descends, but not at any other time.

16th.—Discharged cured.

Remarks.—This patient had large hæmorrhoidal excrescences, accompanied by considerable protrusion of the rectum, which could not be reduced without much difficulty. Protruded rectum in adults is very commonly accompanied by hæmorrhoids, and is mainly caused by them. Mr. Hey, of Leeds, proposed a plan of cure in such cases,—the ligature or excision of the hæmorrhoidal tumors. In the present case, the tumors were large, and the prolapsed intestine much thickened. The plan first adopted was to unload the hæmorrhoidal vessels, by means of extensive scarifications. It was repeated again and again, but not with much success. Under these circumstances, Mr. Phillips tied a portion of the diseased mucous membrane; but so aggravated was the case that new points had to be tied several times before the evil was subdued. He remarked that this condition of the rectum rarely exists without constipation, and that in all cases the first step should be to get the bowels into a good state by the use of mild aperients, such as Conf. Sennæ, Sulphur, and Jalap. It not uncommonly occurs that this plan renders any operation unnecessary, and that in no case should this comparatively trifling operation be had recourse to when the general health is in an unsatisfactory state, lest phlebitis should follow.

THE NEAPOLITAN PHLEBOTOMIST.

The taste for blood-letting is universal at Naples. On every the slightest indisposition, or fear of indisposition, all men, women, and children, run to the *Salassatore*, or phlebotomist, to have a little blood drawn from the back of their hand; so that there is not a lad or a young girl of 10 or 12 years of age whose hands do not bear testimony to the repeated applications of the Salassatore's lancet. For a faith which has not a single heretic in the community, of course there is a priesthood—a numerous priesthood. The number of educated medical men would never suffice to perform its offices. This has led to the establishment of a special corporation, whose business it is to handle the lancet, and attach the leech. The phlebotomists have therefore establishments in every street, in every open place at Naples. How often have I paused before the singular insignia by which the shops of these priests of the lancet are distinguished! Imagine to yourself the figure of a man, naked as when he dwelt in paradise, but spirting forth from every vein which steel can reach parabolic jets of blood, an ample pool of which is at the same time collected on the ground. Imagine further, by the side of this awful figure, the effigies of the artist appropriately habited, lancet in hand, and on his knee before his work, like Pygmalion before his statue, and you will have a notion of the way in which the Salassatore here brings the fine arts to his assistance! I was curious to penetrate into one of these sanctuaries of minor surgery, and see its priest close at hand, and seeking some pretext for my intrusion, I demanded a few leeches. I found the phlebotomist at the further extremity of his shop, gravely extended upon a settee of straw, and waiting for a customer with that Neapolitan indifference which resembles at once indolence and sleep, or is in fact a mixture of the two. The shop was poorly furnished, but the walls were occupied from the floor to the roof with a frame-work of little compartments or pigeon holes, filled with compresses and bandages rolled neatly up. I ventured a question on the subject, and learned with amazement that each compartment represented a *customer*, whose fillet and compress were there in readiness. I stepped back a pace, before the sanguinary statistics which the answer of the Neapolitan Salassatore presented to my mind's eye, and did justice at length to the *moderation* of our Parisian phlebotomists who draw blood on the *coup sur coup** system!—*M. Carrière, in Gaz. Méd. de Paris*, No. 13, 1844.

PROXIMATE CAUSE OF DIABETES.

At the meeting of the Academy of Sciences of Paris of the 15th inst., a memoir by M. Mialhe, entitled, "A Theoretical View of the cause of the Disease known under the name of Diabetes Mellitus," was presented. The author in the course of his examination of the urine in a case of doubtful diabetes, was led to discover, as he says, that grape or diabetic sugar only acquires a reducing action upon the oxide of copper after having been chemically acted upon, or altered by an

* Query, *cup upon cup*, till the patient expires?—*Eng. Printer's devil.*

alkaline substance, free, or in the state of carbonate. This simple fact he conceives has given him a key to the primary cause of the disease, characterized by the presence of sugar in the urine. M. Mialhe maintains that the hydrocarbons used as food, such as sugar, gum, starch, &c. are incapable of being assimilated until they have been transformed by the alkalis of the blood into new substances, among the number of which figures one endowed with very energetic deoxydating properties, so that it readily reduces the peroxide of lead to the protoxide, the salts of the peroxide of iron into salts of the protoxide, salts of the binoxide of copper into salts of the protoxide, and even to the metallic state. Now in the patient who is affected with diabetes, the normal changes cannot go on, because, as he does not perspire, and all the cutaneous exhalations are acid, no free alkali or alkaline carbonate can exist in the blood, by which the primary cause of the assimilation of sugar becomes impossible. The simultaneous use of diaphoretics and alkaline medicines is the course which M. Mialhe recommends as most likely to enable us to master the disease.

CONSTITUTION AS TO AGE AND MORTALITY OF THE ROYAL ACADEMY OF MEDICINE OF PARIS, AND COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The Royal Academy of Medicine, of Paris, has among its ranks 8 members of 80 years of age and upwards, 20 of 70 and upwards, 40 of 60 and upwards, 44 between 50 and 60, 24 between 40 and 50, and 3 between 30 and 40. The mortality in the course of the last four years was 25, which is exactly at the rate of 6¼ per cent. or about 1 in 23.

We should have much difficulty in getting at an *apperçu* of this kind in regard to any of our own scientific or professional institutions; but at the Royal College of Surgeons, members of the Council appear to have been commonly chosen when they were from 45 to 47 years of age, and the mortality is stated at rather more than 1 from the body annually: in the course of the last 16 years there have been 17 deaths. There is a rough way of estimating the probable duration of a life by subtracting the age from the number 86, and halving the difference, which is the sum required. Suppose a member of Council to be 46 on his election, his chance of life upon this basis comes out 20 years; and this number, as there are 21 councillors, we see is as nearly as possible the truth.—We have satisfaction in giving those among our brethren who may "achieve the honour" of becoming a member of the Council of the Royal College of Surgeons, upon the new arrangements, the elements of a simple calculation by which they may see how long they are likely to enjoy their distinction. We would not hang a Damocles' sword over heads, but merely, as in the case of the triumphant victor of old, be at their ear to whisper into it: — Remember, thou art a man!

TRANSFORMATION OF FIBRINE INTO BUTYRIC ACID.

At the Academy of Sciences of April 15th, M. Dumas presented a memoir of M. Würz on the above subject. Fibrine left to itself for a week exposed to the air, is decomposed into albumen, carbonic acid, acetic acid, and ammonia. M. Würz adds, that albumen, caseine, and albuminoid matters in general, will probably be found to suffer the same changes as fibrine under the same circumstances. The fatty volatile acids being intimately connected with the neutral fatty substances, it may be imagined that, under certain circumstances, fibrine should become changed into a fatty neutral body, and that such a change may even be brought about artificially. M. Würz has also succeeded in disengaging albumen from all foreign or adventitious matters, without destroying its solubility in water.

At the same meeting of the Academy, M. Blondeau de Carolles gave an account of an experiment in which he had seen cane sugar transformed into acetic acid under the influence of caseum, without either losing or absorbing anything.

IS SYPHILIS OF AMERICAN ORIGIN?

Mr. Prescott, the distinguished author of the "History of Ferdinand and Isabella," took occasion in that work to express his conviction that the venereal disease did not exist among the native Americans at the time of Columbus's discovery.—There is no allusion to it in the narratives of Columbus himself, nor of his son Ferdinand, nor indeed in any other record of the Spanish adventurers. In a recent letter to Dr. Hosack, of New York, he says:—"I have been led into a much wider range of observation in preparing the 'History of the Conquest of Mexico.' But it has served to confirm my former opinion, since I have never met with a notice of this disease, or of any which resembles it. The ancient chronicles speak of an Indian epidemic, called the *Matlazahuatl*, which swept off great numbers of the natives both before and after the Conquest, and which seems to have had some resemblance to the yellow fever. They also notice the introduction of the small-pox by a black, who came into the country the year after the

arrival of Cortes. The Spaniards would certainly not have omitted to notice so terrible a disorder as the venereal, had it been found among the natives; especially as, considering their own licentious indulgence, it must have fallen very heavily on themselves. Their uniform silence, therefore, is evidence so strong, that it may be called positive rather than negative, and may be considered as establishing the fact, that the disease was not known in the Mexican empire at the time of its discovery. Whether a disease so easily propagated among adjacent tribes, and which seems to be circumscribed by no parallel of latitude, could have existed in other parts of the Continent without finding its way into Mexico, is a question which your own knowledge of the subject will enable you to determine better than I can."—*New York Journal of Medicine*, March 1844.

The disease entitled *Matlazahuatl* is considered by Humboldt as having a great analogy with yellow fever, or black vomit.

JENNER AND NAPOLEON.

DURING the savage war that raged between France and England, when Napoleon had all Europe, with the single exception of Great Britain, at his feet, and many of our countrymen were languishing in French prisons, the only avenue to the conqueror's heart, for some little indulgence to these unfortunates, was through Edward Jenner and the Empress Josephine.—Jenner wrote the petition, the kind-hearted Josephine presented it,—and upon several occasions with success. At length Napoleon interdicted any new applications of the sort:—"Thou knowest, my sweet friend," he said, "I can refuse thee nothing which thou askest IN THE NAME OF THAT MAN;—my sense of duty to the state informs me that I do wrong in yielding to thee; so let me be tempted no more." Wherefore has not civilized man from the four corners of the globe combined to rear a monument in every land, in every town, to the name and memory of Edward Jenner? Our DESTROYERS have columns and statues in our public places: shall our PRESERVERS lack memorials of our grateful remembrance? The French have lately raised a monument to Molière; the Brusselers have dedicated a statue to Vesalius;—why should not we follow with one to Jenner?

MR. STANLEY ON THE DISEASES OF THE BONES.

WE are happy to observe, in Messrs. Longman and Co.'s last monthly list of publications that have just appeared, or that are about to appear, an announcement under the latter head of the work of the Surgeon of St. Bartholomew's Hospital which has been so long looked for by the profession. Mr. Stanley gained the Jacksonian Prize from the Royal College of Surgeons, it is now 20 years ago, the subject of the essay being Diseases of Bone; and it is well known that, ever since this time, he has been sedulously engaged in collecting original materials for a great work upon the entire pathology of the osseous system.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

List of Gentlemen admitted Members, April 26.—J. P. M'Donald.—J. T. Mosgrove.—W. H. Benson.—H. E. F. Shaw.—B. S. Browne.—R. W. Coe.—R. King.—H. F. Dakers.

APOTHECARIES' HALL.

Gentlemen who have received Certificates, April 25.—A. C. Barker, Hereford.—H. E. Brewer.—C. Townsend, Sydnall, Shropshire.—R. Clark, Lancaster.—G. S. Deane, Liverpool.—K. Tomson, Luton.—T. Clarke, Banbury, Oxon.—H. Fearnside, Otley, Yorkshire.—A. J. Tapson.—C. J. Rix, Manchester.—N. Brangwin, Henley on Thames.—M. J. Tayler, Bath.

MORTALITY IN THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, April 20.

Dropsy, Cancer, Diseases of Uncertain Seat	98
Diseases of the Brain, Nerves, and Senses	141
Diseases of Lungs and Organs of Respiration	262
Diseases of the Heart and Blood-vessels	25
Diseases of Stomach, Organs of Digestion, &c.	45
Diseases of the Kidneys, &c.	9
Childbed	7
Paramenia	0
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Arthritis	0
Rheumatism	0
Diseases of Joints, &c.	6
Carbuncle	0
Phlegmon	1
Ulcer	1
Fistula	0
Diseases of Skin, &c.	0
Old Age or Natural Decay	48
Deaths by Violence, Privation, &c.	29
Small Pox	20
Measles	10
Scarlatina	32
Hooping Cough	40
Croup	8
Thrush	2
Diarrhœa	6
Dysentery	3
Cholera	0
Influenza	2
Ague	1
Remittent Fever	0
Typhus	41
Erysipelas	6
Syphilis	1
Hydrophobia	0
Causes not specified	0
Deaths from all Causes	846

WILSON & OGILVY, 57, Skinner Street, London.

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FRIDAY, MAY 10, 1844.

ON THE CHEMICAL PHENOMENA OF RESPIRATION.

By M. Gay-Lussac;

With Preliminary and Concluding Remarks.

If there be one function more immediately indispensable to life than another, it is respiration. The brain and spinal marrow may be destroyed, and all sensuous life abolished, but if respiration be kept up, heat will be engendered, the heart will go on beating, the muscles will retain their irritability, digestion and secretion will apparently proceed—in short, somatic life will be maintained for a certain, often a very long time. Strange to say, however, the very essence of the all important function that goes forward in the lungs is still matter of discussion among physiologists, and it is therefore with sincere pleasure that we observe the oldest and most distinguished chemist of France engaging, and promising to engage further, in the question. In the "Comptes Rendus des Sçeances de l'Académie des Sciences" of April 1st, will be found a kind of prodromus to the future labours of M. Gay-Lussac.

Our readers are aware that the physiological world is divided between two opinions on the subject of the chemistry of respiration. According to one, and this was first propounded by Black, and advocated without mention of his name by Lavoisier, the formation of carbonic acid and of water takes place in the lungs themselves, and in virtue of the mediate contact of the oxygen of the inspired air with the blood contained in the delicate blood-vessels of these organs. According to the other view, the oxygen of the air does not act immediately upon the blood in the capillaries of the lungs; it is merely absorbed there; the chemical phenomena in which it is influential or aidant take place without the lungs in the course of the general circulation; and it is only on the return of the blood to perform its lesser circuit that it gives off the products of the oxydizing processes that have already taken place in its mass.

The latter theory, imagined by several physiologists before him, is, however, peculiarly indebted to M. Magnus for its development, and for the grounds upon which it was accepted in the world of science. The grand object of Magnus was of course to prove—1st, the presence of carbonic acid in the blood; 2d, the different proportions of carbonic acid, and of atmospherical air or oxygen, in the blood of the two orders of its containing channels—the arteries and veins. The assent of more than one distinguished chemist, and the silence of criticism, appears to have stamped the inquiries of M. Magnus with a kind of authority, which, however, M. Gay-Lussac cannot allow to his conclusions, these presenting themselves to his mind by the side of many and grave doubts, and Magnus's inferences being sometimes even in opposition to those which his facts would warrant.

The means resorted to by Magnus to disengage the carbonic acid from the blood, and so to prove its existence there, are familiarly known: he replaced it by hydrogen or another gas, and ascertained its quantity by means of caustic potash. From the blood he readily obtained a large quantity of carbonic acid; but did he procure more from venous than from arterial blood? This is the vital question in the theory he espouses; his own statements, however, show that he did not; on the contrary, he appears to have obtained less: as a mean of five experiments, for example, from 100 of arterial blood he procured 6·496 carbonic acid, and from 100 venous blood but 5·504 of the same gas; arterial blood consequently appears to contain considerably more carbonic acid than venous blood! a result which, if accurate, evidently destroys the entire theory.

This grand contradiction, however, is

not the only one. Either kind of blood contains oxygen and azote as well as carbonic acid. If azote be formed in the course of the circulation, as all accurate physiological experiments unite in proving that it is, the quantity of this gas ought to be less in arterial than in venous blood. But what say the figures in Magnus's experiments? That arterial blood contains half as much azote again as venous blood: whilst the mean quantity of azote in 100 of arterial blood is 1·513, in 100 venous blood it is no more than 1·008.

The relative proportions of oxygen alone seem at first sight to agree with Magnus' theory. 100 of arterial blood yields 2·417, 100 of venous blood but 1,170, or about one-half less of oxygen. But when we look more narrowly at this statement, says M. Gay-Lussac, and examine its consequences, it is obvious in the first place that as the carbonic acid which makes its appearance during the act of respiration is formed at the expense of the oxygen absorbed by the blood, there must be a certain relation between the volumes of these two elastic fluids. If, for instance, we know the relative volume of carbonic acid expired in a given interval, we also know that the corresponding volume of oxygen absorbed must be at least equal to it; and this condition established, it would not be difficult to learn whether or not it was borne out by the results of direct experiment. Unfortunately the conclusions of M. Magnus, in regard to the quantities of carbonic acid and of oxygen discovered in arterial and in venous blood respectively, are mutually subversive, and must needs be held as utterly insufficient to afford grounds for any safe conclusion.

In default of the positive data, then, which ought to have resulted from the labours of M. Magnus, we cannot do better than take those which we require for conclusions of any kind from the same sources as himself: let us take them from Davy.

1st. Davy informs us that a man expires thirteen cubical inches of carbonic acid gas in a minute.

2d. That the heart, at each pulse, expels one ounce of blood; and taking the number of contractions at 75 per minute, 75 ounces, or 115·7 cubic inches of blood, will pass through it in the same interval of time. Now 115·7 cubic inches of blood having given off 13 cubic inches of carbonic acid, 100 of blood will contain 11·23 of this gas, a quantity which the blood might readily part with, inasmuch as M. Magnus admits, from his experiments, that it contains much more than 20 per cent. of the gas. But supposing that the venous blood gave off 11·23 per cent of its volume of carbonic acid, it is evident that, to produce this, arterial blood ought to contain—must contain—at least an equal volume of oxygen, say 11·23. Moreover, as in the respiratory act, of 4 parts of oxygen absorbed 3 go to form carbonic acid and 1 to form water, the blood must have taken up or dissolved, in its course through the lungs, not only 11·23 oxygen, but $11{\cdot}23 + \frac{11{\cdot}23}{3} = 14{\cdot}97$, a quantity which is 16 times greater than the 0·926 of oxygen which pure water can dissolve in the same circumstances, that is to say, in contact with atmospherical air*. And, farther, if we allow, with M. Magnus, that venous blood, on reaching the lungs, still contains about one-half of the oxygen originally dissolved in the arterial blood, the whole quantity which the latter ought to contain at its exit from the heart will be, first, 14·97 destined to be used up in forming carbonic acid and water, plus 7·48, remaining in the venous blood; in all 22·45, a quantity which would require us to suppose that, in contact with an atmosphere of oxygen, 100 of arterial blood could take up $22{\cdot}45 \times \frac{100}{21} = 106{\cdot}9$, or more than its own volume of the gas. Such a capacity in arterial blood to dissolve oxygen, eighty times greater than that possessed by water, is certainly not impossible; but it were very necessary to prove it, or at least to give some facts which should render it probable. I am ready to admit, says M. Gay-Lussac, that the data which both M. Magnus and I have assumed are not so unimpeachable as seems desirable, and that ample concessions may be made in regard to them: still, in changing them greatly, the objections derived from such an extraordinary solubility of oxygen in the blood would be entitled to very serious consideration. In this reasoning, simple solution, not chemical combination, is supposed; and this, indeed, M. Magnus adopts; he could not do otherwise; had he admitted combination, he would of course have been asked, wherefore the final effect of respiration was not at once produced? wherefore an action divided into two stages, one in the lungs, the other beyond the lungs in the systemic capillaries? The whole of the gases, then, which have part, or which appear, in the course of respiration, must be held as simply dissolved in the blood, not as chemically combined with it, according to the laws established by Dalton.

The better to enlighten the interesting question of the chemistry of respiration, M. Gay-Lussac then goes on to make fresh applications, with data partly different from those which have been hitherto brought into requisition, viz. the late experiments of M. Bourgery; but still finds that the blood can

* From certain old observations, common to M. Gay-Lussac and M. de Humboldt, it was found that water, in contact with air, contains $\frac{1}{36}$ of its bulk of that elastic fluid, composed of $\frac{1}{3}$ oxygen=0·926, and $\frac{2}{3} = 1{\cdot}852$ azote.

by no means be supposed to hold such a quantity of carbonic acid in solution as will supply the amount that is given off in a given interval of time; no more can the arterial blood be demonstrated to absorb or dissolve such a quantity of oxygen as will prove adequate to the formation of the carbonic acid and water that are thrown off by the venous blood in the course of its transit through the lungs. The experiments of Magnus, in short, satisfy scarcely any one of the requisite conditions; and his conclusions are seldom in harmony with the data upon which he operates.

M. Magnus explains the change of colour in venous blood entirely by the loss of carbonic acid in the lungs. But it is by no means demonstrated that venous blood exhales carbonic acid in the lungs; and then if it were, the quantity of carbonic acid which it does not give off, according to M. Magnus, is still so great in comparison with what it does eliminate, that it appears impossible to explain by a difference in quantity, relatively so small, any change of colour so remarkable. It is therefore obvious, that the theory of respiration advocated by M. Magnus and espoused by so many physiologists, has as yet no sure foundation to rest upon, and that the chemical phenomena of this vital act require to be examined and discussed anew. M. Guy-Lussac would probably have felt that such a task was too much for him alone, but aided by M. Magendie, he trusts that from their united labours some results may be obtained which shall serve to advance our knowledge of the important function of respiration.

The fine-drawn theories of respiration of late chemists have always appeared to us little less than puerile: oxygen is absorbed or dissolved by the blood in the lungs; it does not combine directly with the hydro-carbons of the blood to form carbonic acid, but these first undergo conversion into lactic acid, which seizing on the soda of the blood converts this into lactate of soda, but the lactic acid becoming incessantly farther oxidized, is in its turn converted into carbonic acid, which being disengaged from the soda by a fresh portion of lactic acid, is dissolved in the mass of blood till it is thrown off in the lungs in virtue of the law of penetration—a certain measure of oxygen is absorbed, and a corresponding measure of carbonic acid is expelled. When we have a lamp burning before us, however, we have not yet imagined the necessity of any roundabout way of securing the combination of the oxygen of the air with the hydro-carbonaceous matter presented to it by the wick. But by the process of digestion, by the solution and elaboration of the alimentary matter, which is effected in the stomach and lacteal vessels, the hydro-carbons of the blood are prepared for facile combination with the oxygen of the air taken into the lungs; and whatever chemists may may have imagined to the contrary, every fact in physiology seems to give us assurance that the union between the oxygen of the air and the carbon and hydrogen of the blood takes place in the lungs. Were it otherwise, were oxygen merely absorbed in the lungs, true respiration performed in the systemic capillaries, the extreme parts of the body would be hotter than the centre; the tide of venous blood that is pouring into the right side of the heart would be warmer than that which is leaving the left side. But this is not so; John Davy ascertained that the temperature of the blood in the left ventricle was from 1° to 3° Fah. higher than that in the right ventricle; and this result has been recently confirmed by Becquerel and Breschet, and indeed by every careful experimenter since he published. The additional temperature, however, could only have been acquired in the lungs, and there only as a consequence of combinations effected between the oxygen of the in-breathed air and the carbonaceous and hydrogenous elements of the blood. This was the simple, and to our minds satisfactory theory of respiration taught by Black, Crawford, and Lavoisier, and that has but just found a new and an able advocate in Dr. S. L. Metcalf, in his work on Caloric, of which we purpose giving some account in our next number, but whose general conclusions upon this interesting subject we add in this place. They are these:—

"1. During the passage of the dark venous blood through the lungs it parts with variable proportions of carbon and hydrogen that unite chemically with atmospheric oxygen, to form carbonic acid and water, as in ordinary combustion, by which it acquires *an addition of caloric* and a bright florid hue.

"2. During the circulation through the systemic capillaries, the caloric obtained from the atmosphere is transferred to the solids, by which their temperature and vitality are maintained, after which the blood returns to the right side of the heart of a dark modena hue, having lost its power of stimulating the organs until it acquires an additional new quantity of caloric from the lungs."*

Our readers will at once perceive that here is the announcement of a new principle in physiology, which demands the most serious attention of anatomists, chemists, and natural philosophers. By the alternate addition and subtraction of caloric to and from a little water, we have the power of the steam engine developed; wherefore should not the principle of motion in the animal body be the same? M. Gay-Lussac, with

* Op. cit. 554.

the able assistance of M. Magendie, proposes to go over the ground of the theory of respiration again: who will not rejoice to learn the fact? We would very respectfully request his attention to the work from which we have made the short extract above.

ON THE DECREASE OF DISEASE THROUGH THE PROGRESS OF CIVILIZATION.

By C. F. H. Marx, M.D.

Professor of Pathology in the University of Goettingen.

(For the Medical Gazette.)

[Continued from p. 108.]

There can be no question that the progress which has been made in the course of the last half century in the distinction or diagnosis of disease, as well as in its treatment, by medicines and surgical operations, has had the effect of saving many lives that would else have been lost. In the beginning of the present century medicine was still without the means of distinguishing one form of disease of the heart and of the lungs from another, so that prescriptions were necessarily written in a great measure in the dark, or medicines were at best directed with a view to the alleviation of particular symptoms, never with the purpose of striking at the root of the evil. At the present time, with the aid of percussion and auscultation, it is admirable with what precision the diagnosis can be established in regard to almost every variety of disease to which the viscera of the thorax are obnoxious. Inflammation of the membranes of the brain, of the lungs, and of the bowels in infancy, had also been little studied until very lately; and being either overlooked or misunderstood, these formidable affections were of necessity indifferently treated, and very commonly proved fatal. The old mode of treating syphilitic diseases was often as fatal in its effects as these maladies themselves.* Aneurisms, which in former times were almost necessarily mortal, are now and since Mr. Hunter lived almost as certainly treated with success; he who had an aneurism in his ham had scarcely a chance beyond that which amputation of the thigh afforded him: the hand of the master through an incision two inches in length now attains the artery in its course to the disease, passes a ligature around it, and in the great majority of instances the patient escapes with life and limb preserved. Deformities and imperfections, which were formerly the prey of ignorant empirics, have been made the subject of particular study, by men of liberal acquirements, under the guidance of anatomy and physiology, and are now removed and remedied by appropriate operations in innumerable instances. Squinting, which was always felt as so painful an imperfection by the individual, and which also made him incompetent in certain directions as a member of the community*, is now remedied by a simple snip, almost as certainly, and with little more pain than stammering is treated by systematic exercise of the organs of speech.† How numerous the cases of blindness held irremediable in former years, which are now restored to sight!

And let it not be brought against all that has now been said, that new names of diseases are every day appearing as evidences of their increase. Names are still no things. The botanist who should make new genera and species out of mere varieties, would no more enrich the flora of a country, than the nosologist who should raise symptoms and varieties to the rank of particular species, and designate each by a name, would add to the number of its diseases. The number of diseases, happily, has not increased in nature, but in books; classifications of our infirmities, not our infirmities themselves, have increased. It happens, not unfrequently, indeed, that diseases which, from description and at first, appear specifically distinct, are found after more careful investigation to differ but in

* Such statements as the following are as true as they are encouraging:—"Riddled and honeycomb skulls, looking as if they had been eaten of worms and gnawed by dogs, are now, fortunately, rarely to be seen except in the glass cases and drawers of Surgical museums, or in Cheselden's plates;—venerable relics of a past age, out of date, like the silk coat and full ruffles of the contemporaneous doctor. These were the consequences of a profuse abuse of mercury which is now rarely attempted."—*British and Foreign Med. Review*, 1840, vol. ix. p. 240.

* In Würtemburg sixty-seven individuals were declared incapable of the military service in the course of five years, on account of determined squint.—Riecke, op. cit. p. 27.

† It must be allowed that surgery went wrong here. Several unwarrantably severe operations were performed on the root of the tongue, by way of curing stammering, and several lives were lost; but the mistake committed was soon discovered, and the barbarous procedure abandoned.

degree, and to have suffered modification from climatic and national influences—for example, oriental plague, and our own typhus.

If certain diseases be spoken of at the present time as extremely common, and as still spreading, this frequently happens from a fashion in a particular school, or the influence of a single physician. Some persons meet everywhere with diseases of the heart*, others with affections of the spinal marrow, others with derangement of the stomach, of the liver, &c., and then it appears as if humanity were to be put to a new and sore proof; but by and by the prevailing fancy passes, it is recognized as the effect of hypothesis, it has its day, and all returns to the ordinary and usual in sickness as well as in health.

And then if it were granted that particular diseases are now more frequently observed than they used to be, have we any assurance that therefore these diseases are commoner in fact?

Among uncivilized tribes and nations a very large proportion of the more weakly children die in the course of the first year; in civilized communities such children are reared in great numbers, and only fall victims later in life to natural or accidental causes of decay. How can it be said that this or that disease has increased in frequency, when it is acknowledged that a much larger proportion of mankind, by attaining to old age, are made obnoxious to its attacks? Where there are few or no subjects for apoplexy to invade, there are few or no invasions of apoplexy. Civilization can only guard against and abate circumstances that induce disease; it has no power to bestow physical immortality. Precisely in the ratio of the greater mass of life and living energy that presents itself in the civilized world, is the glory of the victory that is won over the multiplied and infinitely various causes which threaten derangement and destruction. References to historical and statistical accounts of almost all diseases satisfy us of the truth of this position. Let us select a few of the more remarkable for particular inquiry.

Phthisis pulmonalis.—The frequently asserted increase of this formidable disease*, which so constantly invades in the very flower of life, when the body has attained its growth, and the mind is close upon maturity, can by no means be allowed. The tables of mortality that could alone supply elements for definitive conclusions on the subject, are very far from being extant in even approximative completeness and authenticity.

One of the latest writers on consumption†, who has given a review of the deaths from consumption in London between 1700 and 1821, says:—

The opinion entertained by some authors, that consumption has increased since 1750, originates in the error of taking its *relative* mortality as compared with that from all diseases, instead of its absolute mortality in reference to the population.

And then if the statistical tables of those cities and countries where they have been kept with care for a series of years be referred to, it will be found that, instead of an increase, a positive diminution of pulmonary consumption has taken place. In Stuttgart, for example, fewer deaths from phthisis are recorded year after year‡. In the course of five years no more than three individuals had been found unfit for military service by reason of phthisis pulmonalis§.

The ancients frequently speak of phthisis, and, at the same time, dwell upon its hereditary transmissibility and contagious nature‖. But as in the pre-

* The Roman gladiators appear to have suffered frequently from inflammatory diseases of the heart, which, as well as affections of the great vessels, were well known to the ancients (*Vide* Sprengel, l. c., v. i. and ii.) The copious literature which the last ten or twenty years have produced upon diseases of the circulating system is no kind of evidence that such diseases have increased in number and severity; they are now much better known, and more regularly diagnosticated, than they used to be.

* According to Bernoulli (Population, p. 308), in the year 1828, 1-9th of the whole mortality of Paris was due to phthisis—1-10th of the males, 1-8th of the females, having sunk under this disease. But this statement is not borne out by the figures of other writers (*Vide* Clark on Consumption.

† Clark, op. cit.

‡ Between 1787 and 1791, there died of consumption within the precincts of Stuttgart, 772 persons; between 1792 and 1796, 675 persons; between 1797 and 1801, 546 persons; between 1802 and 1806, 475 persons; between 1807 and 1818, 465 persons—ten less in these twelve years, therefore, than in the five years from 1802 to 1806 (Cless, Med. Topography of Stuttgart, p. 69.)

§ Riecke, Contributions, &c. p. 43.

‖ Riecke, op. cit. p. 18.

sent day the term consumption is by no means restricted to signify the decay that attends upon tubercular disease of the lungs, so in former times the word phthisis was obviously used with considerable latitude. The Father of physic, however, condescends upon the period of life when phthisis occurs most frequently, between the 18th and 35th year, an observation the truth of which accords remarkably with the latest statistical results obtained from Berlin, Paris, Edinburgh, Philadelphia, Nottingham, Chester, Carlisle, &c.*

Some countries, from geographical position and endemical relations, appear to be unfavourable to the development of consumption; Egypt, for instance, has been known, from remote antiquity, to be propitious to the consumptive invalid†.

Those countries and districts that are obnoxious to fever and ague are said to suffer little from pulmonary consumption‡. It is possible, however, that the countries from which this inference is drawn owe their reputation rather to the mildness and equality of their climate, to the absence of sudden changes of temperature, well known to try irritable lungs so severely, than to any miasmatic or fever-engendering influences§.

Consumptive diseases of all kinds must obviously run their course much more rapidly, and prove fatal far more inevitably, among unpolicied nations than among civilized communities. How speedily does phthisis generally bring the labouring person, exposed to fatigue and the inclemencies of the weather, to his end! Among the wealthier classes of society, however, it often runs its course very slowly; so slowly that individuals sometimes live for years with caverns in their lungs, and execute works of lasting value to mankind in spite of the circumstance*.

Since the deleterious influences of many handicrafts, such as needle-pointing, knife and fork grinding, brush-making, stone-cutting, water-gilding, have been known, and their causes investigated, means for abating or rendering them ineffectual have been taken, and the mortality because of them has been lessened†.

It may safely be said that no disease ever arrested in a greater degree the serious attention of distinguished medical men than this of pulmonary consumption. The phenomena of tubercular deposition which in the great majority of instances is the first appreciable link in

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* Clark, op. cit. [The mortality in this country rises rapidly about the age of puberty, more so among females than among males; between 15 and 20, it is half as great again as it was between 10 and 15.—Eng. Ed.]

† Celsus, De Medicina, l. iii., 22. "Quod si vera phthisis est, inter initia protinus occurrere necessarium est * * aplissime Alexandriam ex Italia itur." Vide, also, Röser on some of the Diseases of the East (in German), Augsb. 1837.

‡ Vide Wells, Obs. on Pulmonary Consumption and Intermittent Fever, chiefly as diseases opposed to each other, in Trans. of a Society for improving Med. and Chirurg. Knowledge, Vol. iii. London, 1812. Also, Blane, in his Select Dissertations; and Hennen's Med. Topography of the Mediterranean. In the West Indies, however, where fever is so fatal, the mortality from pulmonary consumption is very great (Vide Clark, op. cit.

[Much evidently depends upon *race* in regard to liability to phthisis in particular countries or climates: Great Britain is probably the healthiest country in the world—to its own children; to all the coloured races of men it proves a grave within one or two years. In Ceylon, phthisis is extremely rare among the natives; but the blacks very frequently die consumptive in that island. A regiment which, in Scotland, is losing regularly about 4·5 per 1000 from pulmonary disease, transferred to Jamaica, begins immediately to lose about 19 per 1000 from the same cause; transferred to India, it will lose about 11 per 1000 from liver disease and dysentery, and not above 1 or 2 per 1000 from pectoral complaints.—Eng. Ed.]

§ Many districts of Italy are infested with fever of the intermitting and remitting kind, without being therefore by any means exempt from pulmonary consumption, which appears, in fact, to be even more frequent and fatal in Italy than in England. Persons in aguish districts are aware of the necessity of clothing themselves warmly, and thereby probably become less liable to phthisis.—Eng. Ed.

* Our friend the late Dr. M'Kinnal knew himself that he was consumptive, that he had a cavern the size of the closed fist in one of his lungs; nevertheless, by leading a most temperate life, only shewing himself abroad during the fine months or weeks of our summers, &c. he lived, for ten or twelve years, a life of great intellectual enjoyment. He even went, for two years, surgeon of a frigate to the coast of Africa, and all the while consumptive.—The distinguished author of several of the most useful works that were ever written in medicine—Physiology applied to the Preservation of Health; On the Treatment of Insanity; On Digestion; &c.—has lived, and still lives, with much enjoyment of existence to himself, with infinite advantage to the world, and all the while affected with true consumption: twenty years since he had first one, and then another, tubercle deposited and softened in his lungs. May he live for twenty years to come, the delight of his friends, and to make the world still more his debtor than it is!—Eng. Ed.

† Very sufficient means are now familiarly known for carrying off the grit and iron-dust of the grinder's shop-dust flues; but strange to say, the workmen themselves object very generally to use them! "they regard every precaution to prolong life with jealousy, as a means of increasing the supply of labour, and lowering wages; they are for 'a short life and a merry one,' and hence, even when the masters are at the expense of erecting the apparatus, these men refuse to use it, and even frequently kick it down, and break it under their feet." Second Report Children's Employment Commission, Evidence, 582.—Eng. Ed.

the chain of morbid processes, have been so thoroughly investigated, the circumstances under which the deposit takes place, and those that favour its softening and elimination are so well understood, that reasonable hopes may be entertained of our being one day in a condition first, to prevent the formation of the inorganic mass, and then to secure its absorption or removal by a way less hazardous than that of internal softening, and ulceration of the surrounding structures*.

Conclusions from bills of mortality, the documents hitherto relied on by statists and medical men for data, also require to be drawn with much foresight; medical science is not yet at such a point of perfection with the entire mass of practitioners and the public, as to make it quite certain that every disease which proves fatal is correctly named. Several diseases of very different nature are entered under the common title of consumption or decline; and it is always doubtful whether those that figure as *disease of the chest*, as *chronic catarrh*, as *hæmoptysis*, &c., were or were not proper tubercular phthisis.

Scrofula, a disease from which the youthful in especial suffer, may safely be said to be on the decrease rather than the increase; the circumstances which favour its production are certainly less influential than they were, and are likely to become every day less and less so. The better houses in which the mass of the community now dwell, the greater attention to cleanliness, the regular and cheap supply of wholesome and easily digested food† all conduce to render the disease less frequent than it used to be, and to restrict its ravages when it does make its appearance. A smaller proportion of amylaceous and a larger allowance of animal food, warm clothing, a dry house, exercise in the open air, and the use of the tepid or cold bath according to the season, are all so many powerful means both of preventing and of curing scrofulous disease.

The older medical writers describe scrofula accurately, but their treatment was not always well directed; they were too much disposed to look upon the disease as an external and local evil, and to bring the enlarged glands which characterize it to suppuration. Among the multitude of anti-strumous medicines and means, superstitious observances and specific remedies, we have now come to the conclusion that the proper curative treatment of scrofula consists in dietetic and general hygienic measures; and it is certain that this conclusion will not be without excellent effects in times to come. Here, as elsewhere, it is science going hand in hand with civilization that can alone make known the true ways and means of living aright, and compel observance of them in the most fit and proper manner, according to individual wants and peculiar circumstances.

Rickets is certainly a very old disease; the Arabian writers point to it

* The interesting researches of Dr. Baron on this subject deserve particular notice. It is easy by shutting up animals in damp and dark places, and supplying them inadequately with indifferent food, to bring about tubercular depositions into many of the organs—the lungs, the liver, &c. These animals thus diseased, however, have only to be brought into good air, to have opportunity of taking exercise, and to be abundantly fed with good and nutritious food, in order to recover rapidly; the tubercular depositions which had taken place are removed, and perfect health is regained. A French physiologist further found that animals placed in circumstances known to produce tubercles, escaped if supplied with bread having a certain proportion of carbonate of iron mixed with it, &c.—Eng. Ed.

† Our excellent author does not live under the shadow of a corn and provision law, as we do in England, or he would write differently. It is not for the medical practitioner to meddle with party politics, but as he knows more of the poor than any one else, so is he better informed on the evils of destitution and the blessings of abundance than any other member of the body politic. He knows that disease follows want as the shadow follows the substance; and that health is no less inseparably connected with cheap, abundant, and wholesome food. He were therefore no true priest of Æsculapius who should fail upon every occasion that offered to lift up his voice, and urge upon legislators the necessity of removing all restrictions upon commerce in articles of human sustenance. The soil of England is not now extensive enough to grow food for its inhabitants, whether in grain or cattle; shall they continue to be half-fed, and made obnoxious to disease, as they are under the present system of our corn and provision laws, or shall they be suffered to barter the products of their industry for the food they want in the market of the world? These are the questions, and surely there is but one possible answer to them. It is as one of the guardians of the public health, not as a politician, that we speak here. It may seem matter of indifference to the layman whether a labourer shall have 12 or 14 ounces of hydrocarbonaceous matter in the shape of food each day for the supply of his corporeal wants; but the physiologist knows that the steam-engine will no more do the work represented by 14 lbs. of fuel with 12lbs. than will the animal or human body do the work of 14 ounces of food with one drachm less than that quantity. The labour enforced with a single grain of food less than the effort requires, that grain is supplied by the living solids, and a drain of this kind continued, the solids shrink, become deranged or disorganized, and disease and death soon settle the question.—Eng. Ed.

under the name of the gibbosity or crookedness that occurs from fever*; it was farther observed, in the course of the sixteenth century, in Holland and Switzerland†; and was so admirably described by an English writer in the succeeding century‡, that it has retained the special title of "the English disease," in Germany, up to the present time. There can be no doubt of this disease having, like scrofula, become rarer than it used to be, and from the same causes§. Deformities of limb from rickets are comparatively rare, especially among the middle and upper classes; and if we observe establishments for the treatment of this class of diseases springing everywhere, and the press teeming with treatises upon the subject, we are not therefore to imagine that they have in fact become more frequent than they were: the active competition among professional men, the vastly increased number of writers upon every topic, suffice to account for the greater attention which deformity excites, without supposing that it is of more frequent occurrence now than formerly. The treatment of this class of complaints has, indeed, but lately been rescued from the hands of ignorance and empiricism; evils that were once borne in silence are now proclaimed; men are no longer content with health—they desire, in addition, beauty and vigour.

At the very head of the list of sore evils which long afflicted, and still to some extent afflict, mankind, must be placed *syphilis*. Without entering, in this place, upon the question as to whether the disease was known to the ancients‖, and others of minor moment, this much may with assurance be said: that, prevailing for a succession of ages with great severity, perhaps no disease that ever existed carried so many evils in its train, or spread so irresistibly and extensively over the surface of the habitable globe. The innocent as well as the guilty were its victims; the unconscious infant, the babe unborn, were not beyond the reach of its poison. All the means which earlier times essayed for its control proved fruitless, or seemed rather to add to the evil; a fateful calamity appeared to have overtaken mankind, to have infected the sources of his being, and to threaten the very existence of the species. This disease has made good its footing in the world; it still exists among us; but how, or in what direction, have not the influences of civilization and the discoveries of science, circumscribed its ravages, its power, its effects? In former times extremely dangerous, it is now, comparatively, a trifling malady. In the same measure as knowledge of the intimate essential relations of this disease to the forces of the organism, and to the virtues of medicine extended, have the morals of states and smaller communities increased: all circumstances, in a word, having conspired to circumscribe its attacks, and to render them inefficient when they occurred, it has now lost most of its importance both to the individual and the state. It is not to be denied, indeed, that the way up to this point has been traced with much suffering; the very remedy that was long held indispensable in the treatment frequently did almost as signal mischief to the general health as the disease itself. But it has for some time been recognized that the injury done was rather from the abuse than the right use of the remedy; and then, that no specific means of cure whatsoever were requisite, that heroic remedies of every kind can be perfectly well dispensed with. It was first observed that the disease presented itself with a milder aspect in the warmer countries of the earth,—in Egypt for example,* and that there it frequently yielded to the unaided powers of nature. In the north or colder climates, however, it was still thought that more active measures were requisite; but this presumption has also disappeared, and since practitioners discovered that the chief therapeutical indications were to be directed to the skin and mucous membranes, and that mercury was by no means indispensable, the disease itself has become not only more simple and more tractable, but the organism after its removal has been left more free from consequences of every kind.

The more intimate knowledge now possessed of the *syphiloidea*, the radesyge

* Serapion the elder, vide Sprengel, l. cit. v. 2, p. 381.

† Sprengel, ut sup. v. 4, p. 509.

‡ Glisson, De Rachitide, Lugdun. Batav. 1671.

§ How frequent the disease still is, however, may be imagined from Riecke's statement (Contributions, &c. p. 44), that in Würtemburg alone there are 32,000 persons affected with deformity of the bones of the chest.

‖ Upon this hypothesis, see Rosenbaum's History (in German); Halle, 1839; p. 451.

* Röser, l. c.

and spetalska of Norway, the sibbens of Scotland, the scarlievo of the Adriatic shores, the morbus crimeus of the coasts of the Black Sea, the rose of the Asturias, the Aleppo pustule, the yaws of the West Indies, &c. excite doubts as to the relationship of many of these diseases with syphilis.

These insidious and strange diseases, once acknowledged to be so formidable, have for the major part been long brought under the rubric of ordinary affections, amenable to art, and to be familiarly and successfully dealt with by every village practitioner. The friend of humanity may, indeed, look forward with much confidence to their gradual decrease and final extinction at no very distant period: the higher demands of morality, the growing attention to the general sanatory condition of communities, the better police that is extending over the world, backed by the ceaseless efforts of science to arrive at a knowledge of causes, and to overcome vicious customs and absurd prejudices, all give us assurance that these, among other ills, will one day become matters of historical record.

Even as these three, the most deadly and far spread of all the affections of humanity, cannot only not be charged upon civilization as among the number of her offspring, but are much rather warred against with the whole of her energies, so it is with almost all other maladies, inasmuch as the representatives of civilization, science, art, and morals, still wage a more open or more covert but ceaseless warfare with every one of them. The time may come,—on scientific and abstract grounds it ought to come,—when the great majority of mankind, escaping the host of evils in the shape of sickness that have still beset their path, may

———"Live till like ripe fruit they drop
Into their mother's lap, or are with ease
Gathered, not harshly plucked, for death mature."

To set this matter in a clearer light, it will be instructive briefly to review some of the more remarkable forms from the several divisions of pathology.

The civilization of the ancients had attained so high a point that we still contemplate with wonder and admiration the remains of their architecture and sculpture, the mighty works of their poets and historians, as monuments of a bygone more beautiful world than that which we now inhabit. All the appliances and arrangements of their public and private lives formed such a tissue of varied artistical and sensual enjoyment, that the reproach of over-refinement, which is frequently made against the present age, is probably unfounded.

But granting that in our world of to-day we want the simplicity and grandeur of thought that distinguished the ancients, that we rather inherit their exaggerated desires, their affections, their passions, and have only associated these with the conceptions and exigencies of another order of things, it must still be allowed that in reference to *nervous diseases*—which, like the strings trembling after the chord struck by a powerful hand, remind us of the foregone excitement—no new form of derangement has been noted. On the contrary, when we recur to the narratives of antiquity, and contrast the pictures which they present with those we have now before our eyes, we see that the circle of nervous diseases has been narrowed rather than enlarged.

Even within the observation of the present race of medical men—a mere span in time, and scarcely to be named along with the historical epoch—one very dangerous form of nervous disease, *nostalgia*, or home sickness, has almost disappeared. How frequently, in days but recently gone by, did this painful and destructive longing seize upon our mountaineers and natives of sequestered hamlets, separated from their homes! and how rarely is the name of nostalgia now heard! The once isolated valley is now the seat of active traffic; its inhabitant is brought into contact with the rest of the world; the red man of the Indian woods now visits the Switzer on his mountains; the Switzer seeks out the red man under the shadow of the primæval forest; the rapid means of communication we now possess in our stage coaches, our railroads, and our steam ships, have put an end to the distressing sense of isolation, to the chill of loneliness experienced by the stranger; letters from home reach their destination with magical rapidity and security; and the feeling that every passing thought can be fixed, and sent as it were upon the wings of the wind, to the spot whither the heart tends,

leaves no room for despair, scarcely for uneasy longing to enter.

Our modern facilities of travel do more than this; great evils are not alone worthy of consideration; *hypochondria* and *hysteria* are less frequent than they were, mainly, as it seems, through the taste for travelling; they are mostly soon put an end to by an excursion for a few weeks. Travelling is indeed a powerful remedial means in these forms of disease, as well, apparently, in virtue of the passive and more active exercise it implies, as of the new mode of life that is forced upon the invalid, of the necessary participation in foreign feelings, of the ceaseless afflux of new and amusing impressions which there is no avoiding,—all these soon force the sick man to forget himself, and he feels new life infused into his heart through contact with the world around him.

In so far, also, as with little trouble, and less cost than formerly, that place of residence may now be selected which the requirements both of body and mind seem to indicate, is life, in many instances, prolonged. The increase of vigour which the whole system, in some cases, experiences from a change of residence, or of climate, sometimes exceeds all calculation.*

The more serious organic derangements that sometimes complicate hypochondriasis and hysteria, are now diagnosticated with much greater accuracy than heretofore; every respectable practitioner is now acquainted with the mode of examining the abdominal organs by palping, percussion, &c.; and their true state ascertained, the needful medicines are presented with something like assurance that they are well chosen; they are at all events prescribed with a definite object in view.

Whoever should conclude that hypochondriasis and hysteria were rare diseases in former times from the unfrequent mention made of them in the writings of our older authors, would err egregiously; the diseases are there described, but under other names, such as cholera sicca, inflatio lienis†, &c.

The disease called *St. Vitus's dance* is another form of nervous disease which undoubtedly existed in former times, but which is comprised under a common title in the account of other diseases. As this is a complaint which mostly occurs in those years when the body is acquiring its full development, and as the changes which the system undergoes in its progress to maturity, are every year made more particularly an element in our medical studies, and further as the physical education of youth is ever more anxiously considered, it seems that St. Vitus's dance must of necessity become rarer and rarer; indeed, fewer cases of the malady now come under medical care than formerly.

The *dancing mania* of the fourteenth century appears to have been an immediate effect of the dissolution of all ties, public and private, consequent upon the progress of the frightful epidemic known under the name of the black death. Multitudes were seized, as by a pestilence, with a kind of infernal disposition to wander through the country in motley bands, and to dance till they fell down exhausted, being frequently attacked at the same time either with simulated or actual convulsions. Except those who, carried away by the spirit of imitation, joined these dancers, the bands appear to have been mostly composed of persons who lived upon public charity as long as it could be extorted; it was only, in fact, when the springs of charity had been exhausted, and the sense of decency began again to make itself heard, that these dancers were led back to the rational tranquillity of civil life. With a state of things such as now exists, it is scarcely possible to conceive the recurrence of such an epidemic as this. And yet it must be confessed that something similar has lately been witnessed in the preaching mania of Smaland, a province of Sweden; but how speedily was this strange commotion put an end to by the concurrence of all the reasonable heads in the district!*

* Rush, in his Natural History of Medicine among the Indians, estimated this influence very high: he says, "A Frenchman outlives an Englishman in England; a Hollander prolongs his life by removing to the Cape of Good Hope; a Portuguese gains fifteen or twenty years by removing to Brazil."—*Vide* his Medical Inquiries, Vol. I.

† Sprengel, op. cit. i. 488; ii. 292, ἀποπνιξις, ib. p. 53, morbus mirachialis s.; mirachia, ib. p. 368, 396, 431. Under the rubric *Lethargy*, Morris, in his Observations on the Past and Present State of the City of London, 1751, includes the hypochondriac and hysteric passions.

* Some Account of the Crying Voices, or Preaching Disease, in Smaland, in the years 1842 and 1843, by an Eye-Witness, Leip. 1843.

Can this be an extension of the unknown-tongue foolery, which we had in London some few years ago? It looks very much as if it were. The

Catalepsy, since its reality as a special form of disease has been questioned, instead of being now an object of nosology, is rather one of history*.

The peculiar convulsive disease known under the name of *rhaphanism*, and occasionally, from its extraordinary symptoms, of the convulsive tragedy†, only shews itself, at this time, in districts where no measures are taken to prevent the development of ergot or spur-corn. The causes of the disease are now perfectly well known; and an improved system of agriculture, the grand feature of which consists in thorough draining, seems competent to prevent its occurrence. In wet seasons, when the bread flour is apt to be contaminated with the poisonous fungus that constitutes spur in wheat and rye, continental governments usually caution the public against the mischief that is apt to accrue without proper care in separating the diseased from the sound grain.

Paralysis, especially of the lower extremities, is one of the diseases so commonly seen at the present day, that it were probably wrong to deny that it is not more frequent now than it used to be‡. But as it seems very probable that political changes, and the worry, and excitement, and misfortunes to individuals, that are inseparable from them, added to the hardships of the military life during actual warfare, had a large share in the production of this kind of palsy*, so let us trust that continuing peace, and the security which is now felt by the industrious citizen, will restore the balance, or even put something into the opposite scale, and make paralytic affections rarer instead of more frequent than they were before.

Neuralgiæ, or painful nervous diseases, particularly tic douloureux and angina pectoris, have certainly been very frequently met with since the beginning of the present century; still it is difficult to say anything positive as to their increase; we are not sure whether certain diseases which are described by writers our immediate predecessors under such titles as a "spasmodic convulsive affection of the lips" (Hoffman), as a "trismus dolorificus" (Sauvages), &c. were the same as the Fothergillian tic douloureux. The Arabian physicians frequently speak of "painful spasms of the face†," and one of them‡ recommends remedies or counter-irritation to be applied in the neighbourhood of the place of origin of the affected nerve. Many distinguished personages of antiquity appear to have died of angina pectoris, so that we have no authority for believing it to be commoner now than it was in former ages of the world.§

[To be concluded in our next.]

unknown tongues had of course some advocates and believers among us; but they were few in number, and as the reasonable heads here, as in Sweden, would not listen to the gibberish which the unknown tongues uttered, they soon ceased to wag. The grand mischief that they did was killing poor Edward Irving, the single-minded, the enthusiastic, the good, but alas, not the reasonable or strong-minded!—Eng. Ed.

* Burserius, Institut. § 159, and Cullen, Nosol. Method., conceive it to have been deception, [a conclusion of these great men in which we acquire the greater confidence, seeing that, since their time, the subject of catalepsy is a favourite one with mesmerists, phreno-magnetizers, et hoc genus omne of compound dupes and impostors.—Eng. Ed.]

† Vide Wedel, De Morbo Spasmodico-epidemico Maligno in Saxonia adhuc Grassante, Jenæ, 1717.

‡ Heberden, nearly half a century ago, remarked that paralysis and apoplexy had become more frequent since the beginning of the 18th century; and he is disposed to ascribe the increase to the prevailing use of hot drinks and spirituous liquors. In his Observations on the Increase and Decrease of Diseases, Lond. 1801, p. 37, he says, "gradually and constantly increasing, it is now above double what it was an hundred years ago." In my work on Paralysis of the Lower Extremities I also remark on the greater comparative frequency of this affection, and Baillie had already done the same thing before me. (Vide Medical Trans. pub. by Royal College of Physicians, vol. vi.)

* Blane observed that paralytic affections were more frequent in hospital than in private practice.

† For instance, Rhazes, in Sprengel, l. c. ii. 397, 402; Avicenna, ib. 434 : Albucasis, ib. 451.

‡ Musue, ii. in Sprengel, u. s. ii. 448.

§ Among the number Seneca (vide his 54th Epistle, and Sprengel, v. 602), and the Emperor Alexius Comnens I. (Sprengel, ii. 324.)

DR. SHEARMAN ON THE TESTS AND ANTIDOTES OF ARSENIC.

To the Editor of the Medical Gazette.

Sir,

I have for a length of time felt surprised that the judges in our criminal courts should often admit what I think must be held as indecisive evidence of the administration of poison. During the late assizes two cases occurred where arsenic was most positively sworn to, merely from what is commonly called the reduction test, *i. e.* the production of a metallic ring of what is considered arsenic, in a bulbed tube. A few weeks ago, a paper of mine on this subject was read at the Sheffield

Medical Society, and as I feel assured that you will agree with me in thinking the matter of great importance to professional persons who are called upon to give evidence in courts of justice, perhaps you will honour me by inserting the following abstract of that paper in your very valuable journal. If, as I think I have shewn, the only *definite proof* of the existence of arsenic is the production of the *crystals*, both of the metal and the oxide, then it would be right that unless these crystals are produced to the jury, the prisoner should have the benefit of the doubt that must hang over the conclusion in regard to the presence of arsenic at all; for it is certain that the metallic ring, as shewn in the reduction test, can be produced by other metals besides arsenic. These crystals are very easily produced from the most minute particle of arsenic by any one at all acquainted with chemical manipulation: and of course no other ought to be called upon for an opinion upon such a subject, and where the liberty, or the life it may be, of an innocent prisoner is involved.

I am, sir,

Your obedient servant,

EDWARD JAMES SHEARMAN, M.D.

Member of the Royal College of Physicians, &c.

Rotherham, April 25th, 1844.

On Arsenic as a Poison: its Tests and Antidotes.

In order to prove the existence of arsenic, in a court of justice, we shonld be enabled to show the following facts so satisfactorily, that a jury may not only *see*, but *perfectly understand* them.

1st. The metal should be produced either from the contents of the stomach, intestines, or urine, if the patient should survive: or, if dead, from these and some part of the body.

2d. We should be able to prove that the animal substances experimented upon were the excretions and parts of the patient's body only; *unmixed with any other matter.*

3d. We must also prove that the tests we use to shew the existence of arsenic *have not a particle of arsenic in themselves.* And this requires great caution, because a skilful advocate might make a guilty prisoner appear innocent, owing to this omission.

4th. As *antimony, bismuth, tin, zinc, lead, tellurium, cadmium, selenium, and potassium*, sublime in a somewhat similar manner to *arsenic, and may be mistaken for it*, it is absolutely necessary to guard against such a mistake.

The most common mode of obtaining arsenic from an organic solution is that of Dr. Christison; in which he gets rid of the animal matter by boiling for half an hour in distilled water with strong acetic acid—which often precipitates the casein, and renders it sufficiently pure: if not, the solution should be neutralized by potash or ammonia, slowly evaporated to dryness, redissolved in distilled water, filtered when cold, and then evaporated several times again. This eventually produces a solution free from animal matter. With the ammoniacal nitrate of silver this gives a *lively yellow precipitate*—the *arsenite of silver:* with the ammoniacal sulphate of copper, an *apple or grass-green precipitate*—the *arsenite of copper:* and with sulphuretted hydrogen gas (previously acidulated with acetic acid) it throws down an abundant *sulphur yellow precipitate* — the *sulphuret of arsenic.* This sulphuret should be collected on a filter, dried, mixed with black flux, or freshly ignited charcoal, introduced into a bulbed tube, and properly heated by a spirit lamp, when a *brilliant polished metallic ring of metallic arsenic* will be sublimed all round the tube. *This is called the reduction test.* This metallic ring of arsenic should then be oxidized by exposure to the heat of a spirit lamp in atmospheric air; when *octohedral crystals of arsenious acid, with triangular facettes*, will be deposited on the upper part of the tube, which may be easily seen with a tolerably good microscope.

In Marsh's test, where hydrogen gas is generated from zinc, sulphuric acid and water, and the suspected substance is added in solution, arsenic having such an affinity for hydrogen quickly combines with that gas and forms arsenietted hydrogen, which being ignited, metallic arsenic is deposited on porcelain or glass, and may be seen in *rhomboidal crystals* with a powerful microscope. The objection to this test is, that we are *obliged to use zinc which often contains arsenic:* and although it shews the most minute quantity, how can we swear, after the first layer of zinc is oxidized, that there may not be arsenic in the next? for arsenic runs in the veins of the ore.

In Professor Reinsch's test, modified by Christison, we mix the suspected matter with distilled water, add ʒij. of pure hydrochloric acid to every eight ounces of fluid, immerse a very thin and bright copper plate, and boil for half an hour, when the whole of the copper plate will be coated with arsenic. By cutting these plates into chips, and exposing them in a tube at a low red heat over a spirit lamp, arsenious acid will be sublimed in *octohedral crystals with triangular facettes*, which may be rendered more distinct by turning out the chips, covering the tube with the finger, and chasing the oxide up and down the tube over the lamp.

A most ingenious, scientific, and elegant method of obtaining arsenic has lately been introduced by Robert Ellis, Esq. of University College. He has discovered that the oxides of copper have such an affinity for arsenic, that by merely passing arsenietted hydrogen over them, a double decomposition takes place; caloric is given out; the oxygen of the copper uniting with part of the hydrogen forms water, which is seen in the process; the arsenic of the arsenietted hydrogen uniting with the copper forms arseniuret of copper—the remaining hydrogen being set free. This arseniuret of copper may be easily sublimed in a glass tube, when the whole of the arsenious acid will be deposited in *thick brilliant clusters of octohedral crystals on the tube.* The objection urged against Marsh's apparatus will equally apply to this—that of being obliged to use zinc for the generation of hydrogen.

The *cleanest and safest* mode of detecting arsenic is by *decomposing distilled water by galvanism*, to which is added the suspected solution, and pure sulphuric acid: collecting the hydrogen from the negative pole or zincode of Smee's battery, igniting it, and examining the stain left in a glass tube, open at both ends. If there is the smallest particle of arsenic, the hydrogen will unite with it; and you then have a stain of *metallic arsenic* with *rhomboidal crystals*, which you may then oxidize into *octohedral crystals*; collect, dissolve in water, go through the fluid tests, reduce the sulphuret in a tube, and sublime into arsenious acid again. This is the *most delicate test known*, and perfectly free from the charge of using any substance in which arsenic can exist.

The most likely substance to be mistaken for arsenic by any of these tests is *antimony*, because *antimony sublimes into the same kind of crystals as arsenic.* But by attending to the following rules the two substances may easily be distinguished. *Metallic arsenic sublimes* into *rhomboidal crystals* at a heat of 356° *without liquefying. Arsenious acid* sublimes at 380° into *octohedral crystals. Metallic antimony* sublimes not under 810°, and on cooling, acquires a highly lamellated texture, and *yields octohedral crystals like arsenic*, which are *insoluble in water*; whereas the *octohedral crystals of arsenious acid* are *very soluble*, and which solution may be *tested* by the *three fluid tests.*

In the reduction test with sulphuretted hydrogen gas, it should be *carefully remembered* that the *sulphurets* of *antimony, tin, selenium, cadmium, and tellurium*, have *nearly the same yellow colour*, and *are deposited in the same manner as arsenic*, and when reduced to their metallic state with black flux, they not only give an appearance so much like arsenic, that it requires a very practised eye to distinguish each, if even that be possible; and tellurium and cadmium also exhale a garlic odour like arsenic.

The question then comes,— *how can a witness swear most positively, that a substance is arsenic and nothing else? and how can he convince an unscientific jury of that fact?* I think only in the following manner.

1st. *By producing the metal, and showing its crystals.*

2d. *Reducing it to the oxide, and showing its crystals.*

3d. *From these crystals going through all the fluid tests.*

4th. *Reducing the sulphuret again to its metallic state, then to the oxide, and again going through the fluid tests.*

If this be shown clearly with all the before-mentioned tests, it will be impossible for any advocate to mislead a jury.

The only antidotes which have been discovered for arsenic are the *moist hydrated per-oxide of iron*, and the moist hydrated per-sulphuret of iron. I have lately given dogs and rabbits large doses of arsenious acid in solution and powder, and immediately afterwards large doses of the moist hydrated per-oxide of iron, and then killed them within a short time. The stomachs have shown minute patches of inflam-

mation, but no arsenious acid could be detected by Reinsch's method, the copper plates having merely a scaly deposit of iron upon them; nor could arsenious acid be detected in any other way. This is a strong presumption that the whole of the arsenic was reduced to its metallic state.

In the 1st vol. of the London Medical Gazette for 1841-2, page 116, is a communication from the celebrated Dr. Beck, containing an account of no less than 29 cases of recovery from poisoning by arsenic, by the prompt use of the *moist hydrated per-oxide of iron*, in the human species; and I could point out more which I have observed related in the journals. So that from the results of my own experiments, and the accounts I have read of the successful use of the moist hydrated per-oxide of iron as an antidote to arsenic in the human subject, by many practitioners, I am induced to place great reliance on this substance.

The last edition of the Edinburgh Pharmacopœia (as well as Dr. Beck in the above-named journal) gives a very good formula for preparing this antidote, under the name of "*Ferrugo.*" It can be kept good and fit for use in stoppered bottles, for any time, if covered with water. A table-spoonful should be given every five minutes in plenty of water, to an adult, and a dessert-spoonful to a child, until relief from the urgent symptoms is obtained.

Dr. Golding Bird suggests that hydrated per-oxide of iron may be extemporaneously prepared by adding one ounce of liquor potassæ to half an ounce of tincture of sesquichloride of iron.

REPORT
OF
FATAL DISEASES AND MORBID APPEARANCES

OBSERVED IN THE POST-MORTEM EXAMINATIONS MADE AT ST. GEORGE'S HOSPITAL DURING THE YEAR 1843.

By Henry Lee, Esq.
Formerly House-Surgeon to St. George's Hospital.

(For the London Medical Gazette.)

[Continued from p. 158.]

DROPSICAL AFFECTIONS*.

In twenty-six cases death was accompanied by some form of dropsical effusion, which, in some instances, appeared the immediate cause of dissolution; in others, the effect of the organic disease which produced it.

TABLE SHEWING THE NATURE OF THE AFFECTION, OR PARTS AFFECTED, IN 26 CASES OF DROPSY.

No.	1.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
General anasarca																											In 11 cases
Œdema of lower extremities only	—		—		—				—																		5
Effusion of serum into pericardium																											11
Effusion of serum into pleura		—																									17
Effusion of serum into peritoneum																											17
Hypertrophy of left ventricle																											16
Vegetation on mitral valve of heart																											2
Other disease of heart																											11
Disease of aorta																											5
Disease of lungs																											10
Disease of liver																											15
Disease of kidneys																											20.

— Indicates that the circumstance mentioned in the margin was present in the case under the number of which it is placed.

The preceding table is intended to represent the different parts which were found affected, and the various combinations of organs diseased, in the

* When the supposed cause of death was discovered in the thorax or abdomen, the head was frequently not opened. The cerebral affections are therefore not included in this account.

different instances. It will there be seen that in the twenty-six cases
The heart was diseased in 11 instances
„ lungs . . . . in 10
„ liver . . . . . in 15
and the kidneys . . in 20.

*General anasarca** presented itself in eleven instances, in all of which, with one exception, two or more organs combined to produce the disease.

The heart was here diseased in 5 cases
„ lungs . . . . . in 5
„ liver . . . . . in 4
and the kidneys . . . . in 9.

Hydrothorax.—Effusion of fluid into the pleural cavity, not accompanied by general anasarca, occurred in seven instances, in three of which there was also some effusion into the abdomen.

The heart was diseased in 4 cases
„ lungs . . . . . in 4
„ liver . . . . . in 4
and the kidneys . . . . in 6.

The left ventricle of the heart was hypertrophied, independent of other affections, in six out of the seven cases. In one instance, where there was little other organic disease, the muscular structure of the left side of the heart had become peculiarly firm and elastic; when a detached portion of it was bent, it immediately resumed its former position, and a section presented a peculiarly distinct and prominent outline of the columnæ carneæ.

Ascites occurred alone, or accompanied by œdema of the lower extremities, in five instances, in all of which the liver was diseased, and in two the kidneys were also affected. The situation of the right lobe of the liver was in one of these cases occupied by a dense white cyst, coated upon its internal surface by a white, gritty deposit; in the cavity of the cyst were contained numerous gelatinous layers, apparently the remains of hydatid cysts, floating in a fluid of the colour and consistence of cream. There was no portion of the right lobe of the liver remaining.

FEVERS†.

Four cases of scarlet fever were examined after death: the lungs in all were congested and in one instance partially condensed. The spleen was twice found softened, and congested, and once of very large size, much congested, and as firm in structure as the liver. This occurred in a boy three years of age. The fauces retained indications of inflammation in three instances; in one of which a quantity of pus and lymph was found in the sub-mucous laryngeal cellular tissue, as well as on the outside of, the thyro-hyoid ligament.

Seven other cases of fever were examined, of which the intestines were found inflamed in four, and ulcerated in three. In one instance the ulceration had extended through all the coats of the small intestine, leaving a small round opening, closed externally by a firmly adhering layer of lymph; the fluid contained in the peritoneal cavity was of a brown colour and peculiarly offensive odour: of the seven cases, the substance of the lungs was inflamed in three, and congested in two. In one instance the mucous membrane of the lungs alone was affected. The membranes of the brain were twice found inflamed.

In one instance, where petechial spots remained upon the legs after death, the lungs and kidneys presented, scattered throughout their structure, numerous white, isolated granules; these were all about the same size, less than a line in diameter, and were each surrounded by a narrow circle of livid congestion.

Another case is recorded under the head of fever, in which considerable effusion of serum was found in the cavity of the chest, accompanied by deposit of lymph in the substance of the kidney, and some purulent effusion between the kidney and its capsule.

SECONDARY ABSCESSES.

Secondary abscesses were met with in twelve fatal cases in all; four of which have already been mentioned under the head of compound fracture. In two cases of fracture of the spine, secondary abscesses occurred; in the anterior mediastinum and lung in one; and in the posterior medastinum and cellular tissue around the kidney in the other. In four instances they succeeded amputation, and in one followed an abscess over the knee communicating with the joint, and exposing the patella.

The remaining case of secondary abscess was one in which the cellular tissue surrounding the transverse portion of the duodenum was occupied by a collection of ill-formed

* One case of general anasarca and diseased kidneys, complicated by extensive ulceration of the large intestines, is not included.

† In four cases of fever the body was not examined.

pus and lymph mixed with a quantity of cheesy matter: from this point the cellular tissue was infiltrated with purulent fluid in every direction; the suppuration had extended anteriorly between the layers of the mesentery, to the left along the pancreas, and upwards behind the peritoneum nearly to the under surface of the liver. In the substance of the liver were found in various situations clusters of veins filled with purulent fluid more or less tinged with bile. In several of these the pus could be propelled along the veins by pressure, but in others the veins were lined by a layer of lymph, which, confining the pus more or less perfectly, formed as it were so many small abscesses. The coats of the duodenum in contact with the purulent effusion were observed to be remarkably thin.

In the twelve cases, the lungs were the seat of the secondary abscesses in ten, the liver in three, the spleen in one, and the kidney in one. Deposit of matter was also found in the gastrocnemius muscle in the one case, and of the sartorius in another. In three instances the synovial membrane of the knee-joint was distended with purulent fluid.

In all these cases, with the exception of the one above related, the primary disease had originated in, or involved, some portion of bone*. In former years it has been observed that the osseous system has been involved in a similar large proportion of cases in this disease: thus of seventeen cases of which notes are preserved, occurring in the years 1841-42, the osseous system was implicated in fourteen instances. If we add together the result of the three years, we have twenty-five cases in which secondary abscesses followed or were accompanied by disease of the bones; and four in which they were not.

The number of cases in which secondary abscesses occur appears to vary very much in different seasons and years. Thus, of twenty-five cases of compound fracture occurring during parts of the years 1840-41, secondary abscesses occurred in eight instances, while in the year 1842, of seventeen cases of compound fracture, secondary abscess followed in one instance only.

Diffuse cellular Inflammation.—Diffuse cellular inflammation, arising spontaneously, or from slight injury, was in eight cases the apparent cause of death: in three of these it was traced from the neighbourhood of the rectum into the pelvis, extending in one instance to the anterior surface of the aorta, and in another following the course of the ureter to the kidney: the cellular membrane of the leg was the seat of the affection in two cases, and in one was accompanied by the secretion of a very large quantity of purulent fluid into the peritoneal cavity. The cellular membrane of the back, of the posterior mediastinum, and of the side, were the parts affected in the remaining cases: some oval masses of organized lymph were found deposited in the right lung in one of these instances.

Abscess.—The first case of fatal abscess which presented itself was one in which the transverse portion of the colon, and the anterior margin of the left lobe of the liver, were firmly united to the anterior parietes of the abdomen. Between these parts and the anterior surface of the stomach was a large quantity of fetid pus, maintained in its position upon either side by adhesions. An ulcer, extending through all the coats of the stomach, existed at the upper part of its anterior surface. The opening in the peritoneal coat was of the size of a large pea, and although partially closed with lymph, appeared to have allowed the escape of some of the contents of the stomach into the abscess.

Thirteen other cases of fatal abscesses occurred, besides those already enumerated under the heads of scrofulous disease, and secondary deposit. In six cases the disease originated in disease of the lower dorsal or

* Mr. Hunter observes that the ulcerative inflammation is always preceded by the adhesive inflammation, which, he adds, is established for very wise purposes; for "whenever the ulceration has proceeded beyond the adhesions, there the matter will come into unadhering parts; the consequence of this will be, that the fluid or matter will diffuse itself in the cellular membrane of the part, and from thence over the whole body, as in erysipelatous inflammation: but to prevent this effect the adhesive inflammation takes the lead of the ulceration." The same reasoning which Mr. Hunter uses with regard to the soft parts of the body is doubtless equally applicable to the osseous system, although the different processes may be here carried on in a more tardy manner. If the adhesive inflammation does not occur when the cancellous structure of the bone is exposed to the contact of purulent fluid, the pus may become diffused in the interior of the bone, and it is difficult to conceive in what manner it could be removed when it has once spread beyond the limits of the adhesive inflammation, except by the process of absorption.

lumbar vertebræ; and in three of those instances the structure of the bone was rendered much firmer than natural. In another instance the abscess made its way from the hip-joint through the acetabulum, into the pelvis, and thence descended below Poupart's ligament.

In one patient both ovaries had become the seat of abscess, and the uterus consequently firmly fixed in the pelvis by adhesions: on the right side the sac of the abscess was flaccid, and contained some offensive dark-coloured fluid: it communicated with the rectum by two oval ulcerated openings. On the left side the sac of the abscess was distended, and the pus which it contained was of its natural colour and appearance.

Senile Gangrene.—Senile gangrene proved fatal in two cases. In the first, ossification of the arteries had taken place to a great extent: in the second, the lower portion of the aorta and its bifurcation were chiefly diseased. In this case, the aorta below the origin of the inferior mesenteric artery was irregularly dilated to about three inches in diameter. The internal coat was thickened, inelastic, and ulcerated in various situations; the ulcerated portions being covered with firmly adhering coagula of blood. A considerable cavity existed between the internal and middle coat, filled with a pulpy-brown semifluid substance mixed with a gritty deposit.

Inflammation of Lungs and Pleura.—Nine cases of inflammation of the lungs and pleura unconnected with tubercular disease proved fatal. In four instances the pleura contained pus, and in one a communication existed in the condensed lung between the pleural cavity and a dilated bronchial tube: the bronchus and trachea were filled with purulent fluid of the same character as that contained in the pleural cavity. In one instance the patient had been violently salivated before his admission, and a very large portion of the lower jaw had perished in consequence.

Bronchitis.—Bronchitis was the apparent cause of death in three cases. In the first the mucous membrane was universally inflamed, unaccompanied by any condensation of the lung; in the second, in addition to the affection of the mucous membrane, the pleural cavity contained some effused serum; and in the third case the bronchitis was accompanied by some condensation of aneurism of the aorta, this was situated the lung: the last case was also complicated by the existence of an aneurism immediately in front of the trachea, and by its pressure upon the anterior surface of the tube had diminished its antero-posterior diameter to one half its ordinary size.

Disease of the Heart.—Disease of the heart was apparently the immediate cause of death in five instances: the pericardium was in all these cases affected. In three it was universally adherent; in the fourth case, the lymph effused upon its internal surface had assumed a honey-comb appearance, confining separate small collections of serum between its numerous partitions; and in the remaining case the pericardium contained purulent fluid. A layer of very firm bone had in one instance been developed between the adherent layers of the pericardium. Disease of the mitral valve presented itself in three out of the five cases, and in two of these the aortic valves were also affected: the kidneys were diseased in two and congested in one of the above cases.

Disease of the Brain.—In many cases in which the supposed cause of death was found elsewhere the head was not examined, and therefore cerebral disease may have existed in some cases unobserved. Besides the cases of malignant disease already mentioned, disease of the brain was the cause of death in four instances; in three of these effusion of blood had occurred to a greater or less extent in the substance of the brain, and in one, where erysipelas had preceded death, some effusion of lymph had taken place at the base of the brain, and the corpus callosum, fornix, and septum lucidum, were found softened. The remains of three separate extravasations of blood were found in one of the above cases, consisting of a transparent fluid in one cyst, a yellowish fluid in a second, and a brownish red semifluid substance in a third; in another instance, the cavity containing the effused blood, situated upon the surface of the brain, had become inflamed, and the secretion from its surface mixed with the extravasated blood.

The *spinal chord* was found in one case, for the extent of an inch at its lower part, converted into a pink soft substance. This was accompanied by a soft and spongy condition of the cancellous structure of the corresponding vertebræ, and with inflammation of the kidneys and bladder.

Disease of the Kidneys.—In the great majority of cases disease of the kidneys occasions death by inducing some other disease more immediately fatal. The cases of this nature which occurred have already been enumerated under different heads: five instances, however, occurred in which the kidney was the principal organ diseased, and in which no very evident cause of death was found elsewhere. The brain was examined in two only of these cases, and in both found to contain more fluid than natural, both in its ventricles and in its substance. In all the cases, with one exception, the kidney was reduced in size; upon one occasion one kidney only was present. It was very small and hard, smooth on its surface, with the capsule remarkably adherent, while on the opposite side, the ureter, which was of its natural diameter, terminated above in a cul de sac; around this was some dense vascular cellular tissue, but no appearance whatever of a kidney.* The kidneys were granular upon their surface in all the remaining cases.

A remarkable disease of the bladder accompanied the affection of the kidney in one of these instances. Several large varicose veins were observed in the submucous cellular tissue, near the prostate gland, and in the same situation were several tuberculated elevations, varying in size from a pea to a hazel nut; some of these of the largest size were filled with a white milky fluid; others contained a solid semi-transparent substance, and others again consisted of a yellow opaque matter resembling tubercular deposit. The remaining part of the mucous membrane of the bladder was healthy.

Affections of the Urethra.—Ulceration of the urethra permitting the escape of urine was fatal in three instances. In two of these the opening occurred in the bulbous portions, and in one in the membranous portion of the urethra: the consequent extravasation of urine was situated in the former cases between the perineal fasciæ; in the latter, within the triangular ligament. A fourth case may be allied to these, in which advanced disease of the kidneys accompanied a confirmed stricture. Diffuse cellular inflammation occurred in this case, without any extravasation of urine.

Strangulated Hernia.—Of seventeen patients operated on for strangulated hernia during the year, six died. In one of the cases which proved fatal the patient had been delivered shortly before the operation; in a second the patient was labouring under disease of the brain; and a third was suffering from an attack of fever before the hernia had become strangulated. One of the remaining cases died in consequence of mortification of the bowel, and two proved fatal from inflammation of the intestine and peritoneum. In both these last cases, a sac, formed by the omentum, enveloped the bowel, in addition to the ordinary peritoneal sac. A separate account of these cases will shortly appear, and therefore no farther observations upon them will at present be offered.

Strangulation of the small intestine, unaccompanied by hernia, was in one instance the cause of death. A portion of the small intestine in the form of S had become inflamed, and the different portions glued together by recently effused lymph: a considerable mass was thus formed, the base of which was encircled by another double fold of small intestine likewise retained in its position by recent adhesions. The passage of the bowel was by these means completely obstructed. A diverticulum existed at one portion of the intestine, consisting of a canal about a quarter of an inch in diameter, and four inches long, considerably dilated at its closed extremity, and containing some foreign bodies. This did not appear to be connected with the cause of the obstruction of the intestine.

The following cases proved fatal each in one instance.

Hydatid cysts in the abdomen.—Erysipelas had in this case immediately preceded death. The body was greatly emaciated, but the abdomen enormously distended. The recti muscles were widely separated by the pressure of the abdominal contents, and the parietes consequently rendered so thin, that

* The teeth of this person were all loose, supposed to be the effect of mercury taken before his admission.

some small moveable tumors within the abdomen conveyed the sensation of being subcutaneous. On opening the abdominal cavity, numerous hydatid cysts were seen attached to the omentum: some of these were almost transparent, but in others the parietes had attained considerable thickness. A circumscribed, soft, elevated growth, resembling a warty excrescence, had developed itself from the internal surface of several of these cysts. Almost every part of the abdomen was similarly occupied by hydatids; the contents of the cysts in the neighbourhood of the liver had assumed in several instances a yellow colour, while in contact with the intestine they appeared as though tinged with fecal matter. One very large cyst was situated upon the under surface of the liver, and had become partly imbedded in its substance. Another cyst of very large size was situated above the liver, and by its pressure had made its way through the right side of the diaphragm, encroaching upon the corresponding lung. A smaller one upon the left side had also caused the absorption of the diaphragm and protruded into the cavity of the chest beneath the pericardium. Some small hydatid cysts were also developed from the peritoneum, covering the abdominal muscles.

Hæmatemesis.—The patient in this case died after repeated vomiting of large quantities of blood.

On the upper part of the posterior wall of the stomach the remains of an oval ulcer presented itself. It was perfectly healed, with the exception of one point, where a small rounded mamillary eminence projected from the surface. In the centre of this elevated portion was seen the open mouth of an artery, which proved to be the truncated extremity of the arteria coronaria ventriculi. A large branch was given off immediately before the termination of the artery in the cicatrix of the ulcer.

Effusion of blood on the surface of the spinal chord.—This occurred in a girl 18 years of age, who died suddenly upon the day of her admission into the hospital. The cells of the pia mater for the whole length of the spinal chord were distended with coagula of blood. The extravasation extended upwards upon both sides of the pons varolii, and communicated with a large quantity of coagulated blood which filled the fourth ventricle. The *iter a tertio ad quartum ventriculum* was also occupied by a narrow coagulum. This was continued into and filled the third ventricle. The lateral ventricles were distended with bloody serum; coagula of blood occupied the floor of each, extending backwards into the posterior horn, and communicating with the effused blood in the third ventricle. One of the vertebral arteries presented near its termination two small apertures, from which the hæmorrhage appeared to have proceeded.

Simple ulcer of the œsophagus.—This patient died in a state of extreme emaciation, having for a considerable time been unable to swallow any solid substance: about an inch above the bifurcation of the trachea an irregular shaped ulcer was found in the œsophagus. The tube was slightly contracted but not diseased above this point; the ulcer was about an inch and a half in length, not surrounded by any particluar induration, and extended in one part through all the coats of the œsophagus, but not into the cellular tissue surrounding it.

Imperforate vagina.—The vagina in this case terminated in a cul de sac about an inch and a half from its external opening: from this point the canal was completely obliterated for about half an inch, and above this again became sufficiently distended to contain a pint of fluid. The walls of the vagina in the dilated portion were much thickened, and were lined internally by a uniform layer of greyish-white substance, resembling effused lymph, internal to which was a layer of black matter, apparently a deposit from the black fluid contained in the cavity. This patient died of peritonitis after an operation for the evacuation of the confined fluid.

Erysipelas preceded death in five instances: three of these have already been mentioned under the several heads of compound fracture, disease of the brain, and hydatid cysts in the abdomen. The remaining cases occurred, the one in conjunction with disease of the kidneys, the other accompanied by disease of the liver.

13, Dover Street, Piccadilly,
April 14th, 1844.

REPORT
ON THE
ROYAL MATERNITY CHARITY.

By F. H. Ramsbotham, M.D.

(For the London Medical Gazette.)

During the year 1833, there were delivered in the Eastern District of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham—

2619 *women—Of which cases*

22 were twins—one in about every 119 cases: of these in 6 cases both heads presented; in 15 the presentations were head and breech, or inferior extremities; and in 1 both were breech, or inferior extremities. In 9 of these cases both children were boys; in 6, both were girls; and in 7 they were of different sexes.

1372 children were males.

1269 children were females.

2437 were presentations of some part of the head; of these 12 were face presentations—about 1 in every 220 births.

64 were presentations of the breech, or some part of the lower extremities—about 1 in every 41¼ births; of these 17 were twins.

4 were transverse presentations—about 1 in every 660 births; 1 of these cases was between 7 and 8 months. All the children were delivered by *turning;* the premature child living, the others still-born. In one case the membranes had given way 63 hours before I saw the patient.

In 2 the placenta was implanted over the os uteri; one was a breech presentation: the child was extracted alive; the woman did well. In the other case the child was *turned;* it was born dead, and the woman died from the effects of the previous flooding, three hours after.

5 were complicated with alarming accidental hæmorrhage before delivery, *not* the result of placental presentation—about 1 in every 524 cases. In all these cases the flooding ceased soon after the membranes were broken; all the children were expelled living, and all the women did well.

In 18 cases the placenta was retained within the uterus, either by irregular contraction, or atony of the uterine fibres, or by morbid adhesion between the uterine and placental surfaces, requiring the introduction of the hand for its extraction—one in every 145½ cases. 2 of these were twin cases; another was at 6 months. One woman died of the effects of hæmorrhage fifteen minutes after its removal; another in two hours, from the same cause.

Another of these patients died of pneumonia fourteen days after delivery. She went on very well till the 8th day, when she was moved into another house; she was immediately seized with shivering, pneumonia supervened, and she died in six days. It was in January.

9 were complicated with alarming hæmorrhage after the natural expulsion of the placenta—one in every 291 cases. One was a lingering labour; two were twins; in one of these there was some hæmorrhage between the births, as well as after. One woman died in two hours after the placenta had passed.

3 were delivered by craniotomy—one in every 873 cases; one was the woman's seventh child; her labours had always been lingering, in consequence of a deformity at the pelvic brim; she was allowed to go on as long as was consistent with her immediate safety, and, after the long forceps had been tried in vain, the head was perforated. Another was the woman's eighth child; she also possessed a narrow pelvis; the forceps were applied without success: the woman died on the 8th day from diffused pelvic inflammation. The child was much larger than ordinary. This patient might, perhaps, have been saved, if she had been delivered sooner; but I was most anxious to avoid perforating the head, as she had had so many living children, and I waited therefore longer than was safe, as the result proved. The other was the woman's third child; it was hydrocephalic.

In 3 premature labour was induced—one in every 873 cases; in two of these cases the operation of puncturing the membranes was performed; one of the children was born living; the other still, the feet presenting; one was brought on by the ergot, the child was living. In all the necessity of having recourse to this measure originated in deformity of the pelvis.

5 were complicated with puerperal convulsions—about one in every 524

cases: in 3 the attack commenced before the birth of the child; 1 while the head was on the perineum, the child was born living; 1 at 7½ months of pregnancy, the labour came on in 12 days, the child was dead. The other, the day before labour, the child was living; she had suffered one convulsion fit a month previously. In one case the fits came on in 5 hours, and in the other 7 days after labour. All these women were bled and purged with great relief; and, except the last, who died on the fourteenth day, they recovered.

16 women died either from puerperal causes, or within the puerperal month —one in about every 166½ cases; only 9, however, of these as a consequence of labour, being 1 in about every 291 cases, for 5 died from chronic pulmonary disease, one from chronic laryngitis, and one from typhus fever, caught during pregnancy.

2556 children were born living; 85 were born still—about 1 in every 31 births.

Of the Deaths,

1 occurred three hours after delivery, under a placental presentation from hæmorrhage.

2 from hæmorrhage, after the removal of an adherent placenta: one in 15 minutes; the other in two hours.

1 from hæmorrhage two hours after the natural expulsion of the placenta.

1 on the 14th day after delivery, from the effects of puerperal convulsions.

2 from fever—one in four hours after delivery, the woman being in the last stage of typhus when she went into labour; the other from common continued fever, in the third week after delivery.

1 from diffused pelvic inflammation 9 days after delivery by craniotomy.

2 from pneumonia—one on the 14th day after delivery, which was complicated with adherent placenta; she was most injudiciously carried to another house on the 8th day, as stated above: the other in the fourth week.

5 from confirmed phthisis—one in five hours after labour; one in 5 days; one on the 11th day—she had suffered severely from hæmoptysis during the whole of her pregnancy; one in a fortnight; and the other in the 4th week.

1 from chronic laryngitis a few days after delivery.

Of the Still-born children,

22 were premature—in one case labour was induced artificially.

16 were putrid, at full time, or nearly so.

11 were presentations of the breech, or inferior extremities, at full time, or nearly so.

4 were transverse presentations, at full time, or nearly so.

With 7 the funis prolapsed by the side of the head; the funis prolapsed also in two other cases, but the children were born living, naturally.

1 was under a placental presentation.

3 were delivered by craniotomy; one of these children was hydrocephalic.

2 were monstrous; one of these acephalous.

2 were hydrocephalic, expelled entire.

3 were under lingering labour.

1 was after an attack of convulsions, premature.

With 1 the mother was dying from typhus, premature.

11 were at full time, or nearly so, head presenting, not putrid, nor delivered by art.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Homœopathy Unmasked: being an Exposure of its principal Absurdities and Contradictions; with an Estimate of its Recorded Cures. By ALEXANDER WOOD, M.D. Edinburgh, 1844.

THIS work, able and searching as it is, comes rather too late; for the mask of homœopathy, like that of my aunt Dinah, is worn so thread-bare, that it can easily be seen through, and scarcely requires to be raised. But as some persons in the remote district of Wastdale, in Cumberland, continued to pray for Queen Anne thirty years after her decease, so it may happen that a few persons, far removed from the current of public opinion, may pertinaciously retain a belief in homœopathy, and we therefore strongly recommend to their perusal this volume.

Dr. Wood has acquitted himself in a masterly way, and wrestles with the homœopathists, especially those of Edinburgh, like a giant. He has them

fairly on the hip, and ere he lets them out of his powerful grasp, they suffer so severely, that they must halt for it is as long as they live. But we have long foreseen that hydropathy would prove the true euthanasia of homœopathy, and we turn therefore to a manual of the more recent delusion, entitled—

The Hand Book of Hydropathy; for Professional and Domestic Use: with an Appendix on the best mode of forming Hydropathic Establishments, being the result of twelve years' experience at Graefenbery and Freywaldan. By Dr. J. Weiss, formerly Director of the Establishment at Freywaldan, latterly of Stanstead-bury House, Hertforshire.

Most oracular sentences have a two-fold meaning on application. This is clearly the case with the dogma of the Grecian philosopher, who asserted *omnia ex aqua*, by which he intended to signify that not only all mundane things originated from water, but that this element was to be the great renovator of all things. The present age has demonstrated this—to the great satisfaction of "the dabblers in cold water." It frequently occurs that a superior genius rises to keep alive valuable truths, and instead of attempting, as some have done lately, to rob Priessnitz of his claim to the discovery of the universal curative properties of water, and transfer the merit to the illiterate peasantry about Willow-bridge, in Staffordshire;* we claim this for the illustrious Dean Swift, whose eulogy on a fashionable watering place is the very essence of hydropathy :—

All you that would refine your blood,
  As pure as famed Lewelling,
By water clear, come every year
  And drink at Bellaspelling.
Although disease your skin enrich
  With rubies past the telling,
'Twill clear your skin, ere you have been
  A month at Bellaspelling.

Tho' ladies' cheeks be green as leeks,
  When they come from their dwelling,
The kindling rose within them blows
  While she's at Bellaspelling.
The sooty brown, just come from town,
  Grows here as fresh as Helen;
Then back she goes to kill the beaux,
  By dint of Bellaspelling.

The pained in mind, the puff'd with wind,
  They all come here pell mell in,
And they are sure to find a cure
  By drinking Bellaspelling.
Tho' dropsy fill you to the gills,
  From chin to toe high swelling,
Pour in, pour out, you need not doubt
  A cure at Bellaspelling.

We therefore entirely agree with Dr. (?) Weiss, that "hydropathy is by no means an invention of modern times." The attempt to employ water as a cure for all diseases was made in this country above a hundred years ago, by Sir John Floyer (see his History of Cold Bathing, London, 1732,) and failed, though, like the work of Dr. Weiss, every page abounded with a "modern instance." For amusement we infinitely prefer old Sir John's book, and for honesty of purpose we exalt it far above the modern one. How unpalatable to the present race of hydropathic practitioners must the following sentence be: "Men ought to be very just in what they publish and assert, in that tender and nice concern of *life;* for all things in reference thereunto ought to be considered well, and treated with the greatest *caution;* for there lies no *writ* of *error* in the *grave*, but the sick man is finally concluded by the knowledge or ignorance of his physician. But where knavery and neglect help to compound the *doctor*, there, I say, the patient is in a deplorable condition, more from his director than his disease," p. 186. "Here the patient is in a pretty pickle, being pretty sure to be doused according to the depth of his own purse, or his doctor's conscience; and this I call both a *felony* and *murder*, for the man is first robbed, and then *killed*," p. 202. That these hard terms are not misapplied, let Dr. Weiss himself bear witness. "It happens, unfortunately, but too frequently, that patients are, without further consideration, wrapped in wet sheets in rapid succession, and subjected to ablutions or baths, without any regard to the temperature of the body or to the development of the eruption. I have

* "In Staffordshire, at Willowbridge, they have a more bold practice than either the Greeks or the Romans used; they go into the water in their shirts, and when they come out, they dress themselves in their wet linen, which they wear all day, and much commend that for closing the pores, and keeping themselves cool; and that they do not commonly receive any injury, or catch any cold thereby, I am fully convinced from the experiments I have made of it."—Sir John Floyer's History of Cold Bathing, in the Dedication.

even seen patients left in the wet sheets day and night, where dropsy had already appeared; where the natural warmth of the body was reduced by this officious interference. I have farther seen these patients troubled by one application of cold water after the other, till none was left untried. Is it, then, to be wondered at, that patients should sink under this ill treatment?" p. 178. The plain and obvious answer of common sense is, "Not at all." Yet, as old Floyer again hath it, "Such is the force of one knave on a crowd of fools," p. 198. Dr. Weiss assigns as a reason for adding one more to the numerous treatises on hydropathy, that "the majority of them are absolutely injurious, and wholly objectionable, inasmuch as they diffuse false notions of the nature of this system of treatment, and recommend water without limitation in every disease. Many books, by gross representations of cures of important diseases in an incredibly short space of time, must of necessity prove more hurtful to the cause of hydropathy, than farther the propagation of a discovery of so much benefit to mankind." Preface, p. 4. In other words, the authors of these books, and the followers of the system are—quacks. How does Dr. Weiss propose to distinguish himself from them? By insinuating that he is somewhat superior to Priessnitz himself, as attested by cases published in the German newspapers. In this country these are the very marks of the beast. In the true spirit of quackery, he attributes all the diseases of modern times to men forsaking the use of water; and maintains that a remedy is to be found in a return to the use of it.

Before attempting to give a reason for anything, it is well to ascertain whether it be a fact or not. Now, nothing can be more unfounded than the statement that the race of mankind has degenerated. Civilized man is much stronger than man living in a state of savage nature. This is no vague assertion, but an established fact. "In order to procure some exact comparative results on this point, Peron took with him, on his voyage, an instrument called a dynamometer, so contrived as to indicate, on a dial-plate, the relative force of individuals submitted to experiment. He directed his attention to the strength of the arms and the loins, making trial with several individuals of each kind; viz. twelve natives of Van Diemen's Land, seventeen of New Holland, fifty-six of the island of Timor, seventeen Frenchmen belonging to the expedition, and fourteen Englishmen in the colony of New South Wales. The following numbers express the mean result in each case; but the details are all given in a tabular form in the original.*

	Strength.	
	In the arms.	Of the loins.
1. Van Diemen's Land	50·6	. . .
2. New Holland . .	50·8	. . . 10·2
3. Timor	58·7	. . . 11·6
4. French	69·2	. . . 15·2
5. English	71·4	. . . 16·3

These results offer the best answer to the declamations on the degeneracy of civilized man.

Further, out of 100 individuals born at the same time in the savage state, and 100 in the civilized, a much larger number will be found alive at the age of 60 of the latter than of the former. The reason why all savages are strong (though not so strong as well-fed Englishmen) is, that none but the strong survive and reach maturity, the feeble all, without exception, perishing in infancy, as has been ably pointed out in Dr. W. C. Taylor's Natural History of Civilized Society.

Mankind have not degenerated either in strength or longevity in consequence of the usages of civilized society; any argument, therefore, in favour of water, on the assumption of the contrary, must prove—unstable as water.

That some have derived much benefit from a journey to Gräfenberg, and relaxation from excessive occupation, or a career of fashion, joined to plain fare, exercise, and good ablution, we are far from denying. The utility of these *juvantia* Dr. Weiss clearly admits, in his instructions for the "forming of Hydropathic Establishments:" "The amusements and recreations which may be permitted to patients are—concerts, music in general, short dances, various games, gymnastic exercise in the open air, by which the various muscles of the body are brought into play; and, in addition to these entertainments, cheerful, amusing, light reading."—

* Peron, Voyages, t. 1. chap. xx. p. 446; t. 2, p. 460.

p. 438. But here he has been again anticipated by Dean Swift.

Good cheer, good air, much joy, no care,
Your sight, your taste, and smelling,
Your ears, your touch transported much,
Each day at Bellaspelling.
Here all you see, both he and she,
No lady keeps her cell in,
But all partake the mirth we make,
Who live at Bellaspelling!

We do not wish to argue against the use of any thing from its abuse. On the contrary, we rejoice greatly at the erection of baths for the working-classes in Liverpool and Edinburgh, and hope to see so laudable an example followed by every town in the kingdom. But let the managers of these beware of putting them or themselves under the direction of a professed hydropathist.

Hic niger est, hunc, tu, Romane, caveto.

Here we had hoped to rest from our labours; but this roguery will be the death of us! We had got so far when we had laid on our table,—

The Practice of the Water Cure, with authenticated Evidence of its Efficacy and Safety. Part 1, containing 70 authenticated cases, the opinions of English medical practitioners, &c. &c. By James Wilson, M.D. &c. &c.

Here we have the cloven foot undisguised, not only in matter, but in manner and in form: flimsy paper, double columns, minion type, and six sheets and a half, all for the sum of one and sixpence! Dear by comparison at the money, nevertheless; for we have Hannay and Dietrichsen's Almanac, a goodly octavo volume of advertisements of quack medicines, with letters *authenticating* their efficacy, for sixpence! And if there be here the ample space taken up by the titles of the patent medicines and the letters bearing witness to their virtues, there is at least the almanac, with the days of the week, and month, and year; the rising and setting of the sun, moon, and stars; the eclipses and occultations of these luminaries; the holidays; the proper lessons for Sundays and festivals; &c. &c.; all of which, we should say, was well worth the money—sixpence. The book would be dear, indeed, at a penny, were there not the almanac. What, then, shall we say in regard to the price of a kindred volume—without any almanac? What, but that it is excessively dear? and so, in truth, we hold it.

In the account of Dr. (?) Weiss, we took the light tone, and made Dean Swift play the part of critic; we were inclined to treat Dr. James Wilson more seriously; he is, we believe, one of ourselves—a man regularly educated to the profession of medicine; but in truth we want the heart—the joke dies away in our pen; a flood of regret comes over our heart with the thoughts of the fallen angel that possess our mind,—and so we end.

MEDICAL GAZETTE.

Friday, May 10, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
Cicero.

APOLOGY AND PLEA OF THE COMPANY OF APOTHECARIES.

It has transpired somehow or other, and before the "Bill is on the table of the House," that the minister's intended measure for the regulation of the medical profession contemplates the suppression of the Apothecaries' Company as a body having authority or control over the education aud license of the future practitioner.

The Worshipful Company of course do not like this; and how should they? how rare the instances of voluntary retirement into privacy and obscurity, among those who have once enjoyed the sweets of power! They cannot make up their minds to be extinguished, they do not like to be spoken of in the past tense — fuimus Troës!—and they have just sent forth "A Statement on the subject of their administration of the Apothecaries' Act, with reference to some supposed features of Sir James Graham's promised measure of Medical Reform."

The document is a sort of apology for their past conduct; it is further a claim set up for an exertion of influence of the most beneficial kind upon the progress and present state of

the medical profession, and it includes by implication a plea for the propriety of continuing them in their authority.

To listen to the Worshipful Company through the pen of their advocate, one would fancy that they had been in advance of medical science, leading the way in the race of inquiry, and enriching every department of the profession by new views, new facts, new applications of former knowledge. These worthy gentlemen, however, mistake effects for causes, and dragged along with the chariot at its tail, they think they have been in advance of it, and instrumental in bearing it forward. To take the word of these respectable gentlemen, one would fancy that the world of medical science had gone to sleep with the solitary exception of themselves, and that all that has been done of late years—say in the course of the last thirty years—since the eventful year 1815, had been done in virtue of their interference. That the Laennecs, the Bayles, the Broussais, the Andrals, the Louis, and Richard Brights, the Prouts, the Davys, Daltons, Liebigs, and Dumas, the Robert Lees, and Naegles, the Schwanns, the Müllers, Valentins, Bischoffs, Wharton Jones's, Rudolph Wagners, Bowmans, and Goodsirs, and a host besides, too long a list to name, of those who have added new strings to Apollo's lyre, had all been men of their engendering: had all become what they are, or were, in virtue of the "Act for Regulating the Practice of Apothecaries, throughout England and Wales" — God save the mark! and Jove, in his next commodity of modesty, send some—a cargo at least—by the way of Bridge Street, Blackfriars!

It would have been strange indeed, that, whilst all the world were in motion, any particular set of men, even the men in the aforenamed locality, should have stood altogether still. Whether as individuals or as bodies, it is notorious that we have little influence on the current of events; our business both as individuals and as members of corporate bodies—as a minister of the Crown once most wisely said, in his place in Parliament—is rather to adopt such measures as the common consent and general voice of the community seem to require, than to originate new ones. If the education of the medical profession have improved since 1815, as who will say that it has not? the Apothecaries' Company have very certainly had nothing to do with the improvement: our thanks may indeed be due to them that they adopted the advancement which, by common consent, was required; but they had no more influence in creating the taste or the necessity for that advance than they had in the recent discovery of Victoria-Land at the South Pole. Or is the improvement that has gone on in Scotland, in France, in Germany, and America, during the last thirty years, in the general and particular education of the physician and surgeon, a reflex of the dazzling lustre shed over the world by the Examiners of the Worshipful Company of Apothecaries in general court assembled? We rather opine that it is not; it is the progress of knowledge that has made a greater amount of knowledge necessary; no enactment of Apothecaries', or any other company.

That this body of men—it may be said the only body having an available legal authority, 1st, to secure the public in the possession of competent medical advisers, and 2d, to defend them from the inroads of the ignorant empiric, have done all that they might have done—all that ought to have been attempted, at least—we deny. They have made good enactments—we should rather say, have *adopted* good enactments—with regard to the education

of the candidates for their license; for they have taken the curriculum of the University of Edinburgh for their model, and just abated so much from its completeness as their different circumstances seemed to make needful; but we think that we have shewn, in our number for the 19th ultimo, that they have proved themselves utterly incompetent to secure the fulfilment of their own regulations. They have made the degrading system of grinding imperative upon all who present themselves for examination before them; without it, the most diligent student, the medalist of two, three, or four classes, has no security that he will pass; and as a set off to this they suffer themselves to be grossly deceived by many of the young men who come before them. If science could be rendered ridiculous, it would be so by the pretensions to intimacy with her set up by some of the examiners at Apothecaries' Hall, and the questions got out of colloquia medicas and vade mecums, which they propound upon light and electricity, optics, mechanics, pneumatics, and the primum mobile, to the Candidates.

And then, what signifies publishing, as they do in this "Statement," the number of those who have passed, and of those who were rejected? For what term was the rejection? Of the number rejected, how many were found incompetent in the end? To the first query we supply the answer — for a few months at farthest; sufficient time to enable the youth to get better crammed before his next ordeal, never enough to enable him to add one iota, through his own diligence, his own sustained efforts as a true student, to his stock of solid professional information. In six months he comes up again; and he is either passed or rejected: passed, he is no whit better than he was before; rejected, he returns to the trough he had but just quitted; by and by he presents himself for the third time, and then, and as a matter of course, he passes.

The Apothecaries' Company, again, it is notorious, have not done all they ought to defend the public from the malpractices of empiricism. If their prosecutions have sometimes, nay generally — for we would not willingly make matters worse than they are — been directed against uneducated and ignorant practitioners, they have sometimes also been instituted against men of liberal education, men having a diploma from the College of Surgeons or an University, and of perfect respectability in life and conduct.

But the existence of any Company of Apothecaries, as practitioners of medicine, in the present day, is an anomaly, which, like other anomalies connected with wont and usage, remains in England after it has disappeared from the face of the earth everywhere else. There is no such person as an apothecary, in the sense in which we must interpret him according to the Apothecaries' Act of 1815, even so close at hand as Scotland, nor in France, nor Germany, nor, we believe, America. An apothecary is a shopkeeper, a dealer in herbs and simples, drugs and unguents. Take the poet's definition of the man:—

"I do remember an *Apothecary*—
And hereabouts he dwells—whom late I noted,
In tattered weeds, with overwhelming brows,
Culling of simples:—meagre were his looks;
Sharp misery had worn him to the bones;—
And in his needy shop a tortoise hung,
An alligator stuffed, and other skins
Of ill-shaped fishes; and about his shelves
A beggarly account of empty boxes,
Green earthen pots, bladders, and musty seeds,
Remnants of packthread and old cakes
Of roses were thinly scattered to make up a show.
Noting this penury, to myself I said:
An if a man did need a poison now,
Whose sale is present death in Mantua,
Here lives a catiff wretch would sell it him."

The medical profession consists of physicians and surgeons, with either of whom the obstetrician associates himself, and there is the druggist's, the

apothecary's shop, from whence the needful medicines can be procured. The *apothecary* to the army and navy is the tradesman who supplies these establishments with the simples, chemicals, and galenicals, which their medical officers require, — Apothecaries' Company have but just obtained a large slice in the very profitable traffic of supplying drugs to the army. Dealers in medicines, therefore—very necessary men, we will grant them—we will never allow that the apothecary, as the Worshipful Company meets us in the mercantile world, is any part or parcel of the *medical profession.* We hold the conjunction between the practice of medicine and the trading Company, effected in 1815, as one of the most unfortunate incidents that ever befel the profession of physic, and we do say emphatically that we rejoice most heartily in the prospect of a speedy separation between them—*sit perpetua !* is our prayer. The alliance has done much to degrade us in the public estimation; the idea of the petty trader kept constantly before the mind of the world, the idea of the professional man has been too much obscured, or even totally lost sight of. The fellows and members of the Royal College of Surgeons of Edinburgh, never necessarily associated with the apothecary, repudiated his alliance of themselves some time ago; the profession in the Scottish metropolis consists of physicians, of surgeons, and of physician-surgeons — men who, like the medical officers of the army and navy, do not confine themselves strictly to one branch of the profession, but practise either indifferently, have the same education, and are of the same grade as those who do. The prescriptions of all these gentlemen go alike to the chemist and druggist's, to the apothecary's shop, to be prepared. This it strikes us is the point to which all the efforts of those who desire to uphold the honour and to increase the influence and usefulness of the medical profession ought to tend; the paramount object to be kept in view—a divorce between everything like traffic in medicines and the exercise of the healing art.

TREATMENT OF MEDICAL MEN BY BOARDS OF GUARDIANS.

To the Editor of the Medical Gazette.

Sir,

Constantly reading your valuable periodical, and consequently judging your feelings upon these points, I trust I am not acting intrusively in forwarding for insertion the following account, shewing the manner in which professional men are *generally* treated by the Board of Guardians of the Poor in the Isle of Wight; and I shall be also further and very importantly obliged by the expression of your opinion (as also that of some of your able correspondents) as to the absolute justness or unjustness of the following items; and consequently the fairness, or otherwise, of the conduct of the Board in offering such a remuneration as is shewn by the subjoined order.

"Godshill, Isle of Wight.

"The Board of Guardians,
House of Industry, Isle of Wight.

"To J. J. E. Porter, Surgeon, &c.

"To medicine and attendance on the wife of Isaac Wadmore, labourer to Osmond Johnson, Esq. of Wroxall (as follows):—

"1843.	£	s.	d.
"Dec. 16th.—To night journey, £1. 1s.; two draughts, 3s.	1	4	0
19th.—To night journey, £1. 1s.; one draught, 1s. 6d.	1	2	6
Bleeding, 2s. 6d.; mixture, ½ pint, 2s. 6d.	0	5	0
20th.—Journey, 2½ miles, 3s. 6d.; mixture, 2s. 6d.; draught, 1s. 6d. (laxative)	0	7	6
22d.—Journey, 3s. 6d.	0	3	6
	£3	2	6

As will be seen by the extract from the order of the Board, a mistake was made, this case being described as a labour.

"To surgical attendance on Mrs. Williams, widow, of Wroxall, Isle of Wight (as follows); as also on Benjamin Cheverton, labourer, Rond :—

	£	s.	d.
"1844.			
"March 10th.—To stopping long continued and dangerous bleeding from the nose, for Mrs. Williams, widow, of Wroxall, £1. 1s.; journey, 3s. 6d.; medicines, 4s. 6d.	1	9	0
12th.—To reducing dislocation of the ankle-joint, and fractured leg (the inner malleolus), for Benjamin Cheverton, labourer to Francis Fleming, Esq. of Rond, £2. 2s.; journey, 1½ miles, 2s. 6d.; draught, 1s. 6d.; quart bottle lotion, 5s. . . .	2	11	0
13th.—Journey, 2s. 6d.	0	2	6
	4	2	6
Wadmore's Account	3	2	6
	£7	5	0

In Wadmore's case the district surgeon had been in attendance nearly, or may be more than, ten days prior to my being first called. The woman was labouring under violent spasms, I think, probably dependent upon the passage of a biliary calculus, though this opinion has been much objected to. However, "*finis coronat opus*," she recovered under my care.

In Mrs. Williams' case the district surgeon was *first* applied to, and sent some plugs of lint steeped in Tinct. Ferri Hydrochlor., desiring that they should be put up her nose; but that, if the bleeding did not cease, they were to come to him again (*a distance of upwards of eight miles*, viz. from Wroxall to Newport). The bleeding continuing, I (living little more than two miles off) was sent for, and most readily and immediately went, when, by continuing for upwards of four hours to employ the method suggested by Dr. Negrier, Angers (vide MED. GAZ. vol. i. 1842-3, fol. 429), which I have in many cases very successfully adopted, without, as yet, a failure, I had the satisfaction of perfectly arresting the alarming hæmorrhage.

Query.—In these two cases, were not the poor people justified in sending for me? and was I, being the nearest surgeon, not fully justified in attending, and sending my accounts (as has always been customary) to the Board?

In the third instance (that of Benjamin Cheverton), I imagine that the general medical order of the Poor Law Commissioners, dated March 12th, 1842, or rather the following quotation therefrom, may, or ought to be, considered the law bearing upon the case:—

"6. Treatment of simple fractures, or simple dislocations, of the thigh or leg, £3."

Consequently, not being in possession, at that time, of the general medical order, I have not charged enough by 9s.

The following order was forwarded to me from the Board:—

Extract.—"Ordered that the Sum of Three Guineas be paid to Mr. Porter, of Godshill, Surgeon, for his attendance on the Wife of Mr. Isaac Wadmore, *in labour*; on Mrs. Williams, with a bleeding at her nose; and on Benjamin Cheverton, whose ancle was dislocated by the foundering of a gravel pit."

Upon my remonstrating with Mr. Hearn, Solicitor, Clerk to the Board, the reply was, "You may bring your action, sir. Having surgeons of our own, the Guardians are not obliged to pay you a single farthing."

You will now, Mr. Editor, be conferring a personal obligation upon me by replying to the question—Have I acted unjustly, and consequently, unprofessionally, towards the Board of Guardians by exorbitant and illegal charges? or have they dealt unfairly by me, in taxing my accounts to the extent they have done? I think it right to add, that a short time since, being called to the assistance of a midwife at a difficult labour, I, as has always been customary, sent in my account (£1. 1s.) to the Board, this fee having been invariably allowed: they were however pleased to insult me, by sending a cheque for 10s. 6d. *specified as for difficult midwifery!!* which I returned, telling them that I had too much respect for the profession of which I have the honour to be a

member to think of so far disgracing it as to receive such a fee.

I much fear I am extending this to too great a length, but hope the importance of the affair, not only to me but to the profession generally, will plead my excuse.

I have the honour to be, sir,
With respect, yours,
J. J. E. Porter, Surgeon.

Godshill, Isle of Wight.
May 1st, 1844.

[We feel persuaded that no professional man can hesitate for one moment in concluding that Mr. Porter has been most unhandsomely and unjustly treated by the Board of Guardians. The sum they sent him is less than that which he was entitled to have charged for treating either of the injuries sustained by the man Cheverton alone. If £3. 3s. be allowed for dealing with a simple fracture or dislocation, certainly the skill required to treat successfully a case in which there is both a fracture and a dislocation is not diminished, but on the contrary, greatly increased; and a good advocate would find no difficulty, from the testimony of the first men in the profession, of satisfying a jury that if £3. 3s. be the fair remuneration in the simple case, £6. 6s. is not a shilling too much in the compound one. Dislocation of the ankle, complicated with fracture of the inner malleolus, is one of the serious injuries; and if Cheverton recovers, and is able to maintain himself, the Board of Guardians have to thank Mr. Porter that they have not a helpless man, with perhaps a large family, to maintain for the rest of his days. The other items in Mr. Porter's account are perfectly fair; they are extremely moderate. Mrs. Williams would probably have lost her life from hæmorrhage, but for his interference, and there might have been another family to support there; and who shall say, that a journey of 2½ miles in the night season, in the month of December, is highly charged at the rate of a guinea? In the day time the same distance is charged at 3s. 6d.! And then, see the amount of attention bestowed upon the respectable medical practitioner by the Board of Guardians, or their instrument Mr. Hearn, Solicitor His anxious attendance on the poor woman, undoubtedly labouring under severe illness, inasmuch as he was twice sent for in the night, is carelessly set down to the score of difficult midwifery—and we all know how much is involved in the name—long hours of painful attention, the life of a fellow creature on our hands all the while, and that life only saved at last by the skill of the practitioner! How much do the liberal Guardians through their Clerk, Mr. Hearn, allow? the magnificent sum of ten shillings and sixpence! Surely the medical man has a strong claim to protection against such petty tyranny, such scurvy treatment. To bid him bring his action at law is a mockery, in the indefinite state and ever varying interpretation of our common code. There ought to be a central Board composed in part of medical gentlemen—a physician and a surgeon, a barrister and a layman—to decide on such cases as this of Mr. Porter.—Ed. Gaz.]

POLYPUS OF THE LARYNX: LARYNGOTOMY; CURE.

By M. Ehrmann,

Professor of Anatomy to the Medical Faculty of Strasburg.*

The nature of the disease under which the patient, a woman thirty years of age, was suffering, had been accurately diagnosticated by Dr. Schmitt: a fibro-cellular excrescence engaged in the rima glottidis had reduced the patient to extremity; suffocation was imminent, and nothing but prompt measures could give her a chance for life. The first and most necessary step was to facilitate respiration: for this purpose tracheotomy was performed, and a canula being introduced, the patient breathed with perfect freedom. "Two days afterwards I carried out my purpose," says M. Ehrmann, "and happily succeeded in seizing with the forceps, and shaving off with my knife, a polypous excrescence, which grew from the whole length of the inferior ligament of the left side: the growth was brought clearly into view by the separation of the thyroid cartilage cleft in its middle. On the sixth day the patient was doing perfectly well.

TWINS; FOOTLING PRESENTATION;

WEDGING OF THE TWO HEADS, NECK AND HEAD TOGETHER, IN THE PELVIS; ARTIFICIAL DELIVERY, WITH LOSS OF FIRST CHILD; RECOVERY OF MOTHER, AND SAFETY OF SECOND CHILD.

At seven in the morning the membranes had given way, and the feet of a fœtus almost

* Comptes Rendus, 1 Avril, 1844.

immediately followed the gush of liquor amnii. The midwife in attendance proceeded at once to disengage the child; but before she could get it away a very violent pain occurred, with unusual suffering referred to the cavity of the pelvis. The infant, born all save the head, could not be brought farther, and the pains only recurring at intervals of a quarter of an hour soon died away entirely. Assistance was sought at twelve, and again at three o'clock in the day. The body of the half-born fœtus was cold, darkly livid, without pulsation, and had evidently been lifeless for many hours. Every attempt to get it away proved vain; it was in fact now ascertained that with the head belonging to the fœtus that was partially born, there was the head of a second fœtus interlocking, which rendered every prospect of effecting the delivery nugatory. The strength of the mother began to fail, and there was nothing for it but to proceed to the apparently barbarous but indispensable process of severing the body from the head of the dead fœtus. This was done, and the head was then readily pushed back into the cavity of the uterus. No pains supervening, the forceps were applied, and the second infant was brought into the world alive. But now profuse hæmorrhage set in, which was only controlled by injections of pure brandy. The grand object was now to extract the head, in which great difficulty was experienced; at length, however, it was caught between the blades of the forceps, and being brought down within reach of the finger, this was got into the mouth, and the delivery accomplished. The placenta soon followed. The mother and second child did well.—*Dr. Hoffmann, in Casper's Wochenschrift*, No. 11, 1844.

SCROFULOUS ABSCESS OF THE NECK,

WITH PERFORATION OF THE JUGULAR VEIN: DEATH.

A CHILD, five years of age, on recovering from scarlatina, suffered an attack of inflammation and swelling in a cluster of subcutaneous glands situated on the right side of the neck. The glands suppurated. Fluctuation became distinct. A certain tremor, which was perceptible by the hand, and noise which could be heard by the ear applied to the abscess, were held suspicious symptoms, and much hesitation was therefore felt in puncturing the tumor; in fact, this was not done until after a consultation held with a regimental surgeon, who approved of the measure. The abscess was punctured, but immediately an ample stream of blood revealed the true nature of the mischief. The blood at first had a dirty red colour, undoubtedly from the admixture of pus; but before it could be arrested it appeared quite pure. The puncture was forthwith closed, and gentle pressure maintained by means of a bandage; but this was scarcely secured when the patient expired.

On an examination after death it was found that the external jugular vein was perforated like a sieve in a space three quarters of an inch in length, and that the parts of the vessel above and below this portion were discoloured and soft.

The abscess, which was regarded as metastatic in its nature, had, in fact, extended to the walls of the vein which lay over it, and perforated them.—*Dr. Hoffmann, in Casper's Wochenschrift*, March 30th, 1844.

[Our readers, on perusing the above interesting case, will all remember one almost precisely similar to it which occurred in the practice of a distinguished metropolitan hospital surgeon, some two years ago. The sole difference between the two cases was, that whilst in Dr. Hoffmann's the *vein* was perforated, in the one alluded to it was the *artery* that was ulcerated.—ED. MED. GAZ.]

ON THE TREATMENT OF ARTICULAR RHEUMATISM

BY TINCTURE OF COLCHICUM, NITRE, AND BLOODLETTING.

DR. E. MONNERET *(Archives generales de Médecine*, Mars 1844*)* has made some interesting observations on these points of practice, which deserve the serious consideration of the profession. Having shown in a preceding paper *(op. cit.* Jan. et Fev. 1844) that the sulphate of quinine had no title to rank as a therapeutical agent in rheumatism of efficacy superior to many others, he now proceeds to test the value of the articles indicated above.

Twenty-five patients were treated by the tincture of the colchicum root, 8 by nitre, and 19 by copious blood-letting.

The energy of the preparation of colchicum was first ascertained—it was very powerful. The greater number of the patients took from 4 to 16 grammes (one dram to four drams) in the course of the 24 hours, in one, two, or four divided doses. No smaller dose than a dram was ever administered, and several of the patients took it for 7, some for 10, and others for 13 days. The medicine was not discontinued in any case until it was ascertained to have no effect upon the disease.

In 8 of the patients, the diminution, or even total disappearance of the symptoms of rheumatism, coincided with the exhibition of the tincture of colchicum. The rheumatism in these cases was either of some days' duration, and was scarcely accompanied with febrile symptoms, and then ended in 12 or 14 days, or it was completely

chronic. In either case the powerful revulsion produced by the T. Colch. on the bowels sufficed to suspend or to expel the disease: the improvement always coincided with the diarrhœa. In no case did the T. Col. produce amendment or cure of rheumatism by any of those specific and occult properties which have been rccognized in it by certain writers. In a few rare cases where its action was beneficial and rapid, it operated as a true drastic purgative. With regard to any complications which existed with the disease on the side of the heart, M. Monneret observes that it is scarcely needful for him to say that they were in nowise modified by the tincture of colchicum. If the effects of this medicine upon rheumatism, then, are nil in fact, which seems quite certain, it is much otherwise in so far as the abdominal viscera are concerned. Upon this point considerable difference of opinion appears to prevail: some say the colchicum occasions no intestinal disturbance, and that it does not purge; others maintain that it abates the pulse in force and frequency; and almost all unite in lauding its effects in rheumatism, &c. I have watched its influence in a sufficient number of instances, says M. Monneret, to have no hesitation in stating exactly what I have seen. In 25 patients to whom the tincture of colchicum was administered, I observed but a single order of phenomena at all referrible to the gastro-intestinal system. The most remarkable among them were nausea and vomiting, diarrhœa, colic pains, and borborygmi, and the whole of these effccts almost immediately followed the exhibition of the medicine in large doses, and for a certain time. In other instances diarrhœa was the prevailing feature—there was little sickness or vomiting, but the alvine evacuations were copious and repeated. In a third and very small class the chief complaint was of nausea and vomiting without any purging.

The sickness supervened either immediately after taking the draught, or at some longer or shorter interval during the day or night. The discharges were almost always bilious, or evidently mixed with bile. The diarrhœa was generally in proportion to the dose; from 1 to 2 drams of the tincture were followed by from 2 to 20 evacuations in the course of the 24 hours. The motions were mostly passed with acute suffering, violent colic pains in the bowels, tenesmus, and scalding of the anus. The matters passed were at first semi-fluid, but by and by they consisted in great part of a yellow and evidently bilious serum, in which floated a large quantity of whitish grains in form and colour like the ova of a fish's roe; there was also mixed with them a quantity of red matter like scrapings of meat, and some blood more or less mixed with mucus.

Vomiting was scarcely induced by a smaller dose of the tincture than from 2 to 4 drams in a draught; it will not follow 1 dram, 2 drams, or even 3 drams administered in a large quantity of tisan. Several elements enter into the consideration of the therapeutical effects of medicines: the dose, the mode of administration, and the intervals of repetition. The effects of remedies are signally different from those generally seen when they are given in large and closely repeated doses. Three drams of tincture of colchicum in two doses, one close upon the other, produce effects which are not only more energetic, but also different from those generally witnessed.

It is obvious, therefore, that colchicum in tincture exerts its agency especially upon the bowels. Of what nature is this agency? the diarrhœa, the dysenterical character of the stools, the severe griping which follows its exhibition, do not continue as in cases in which the intestinal mucous membrane is truly inflamed; its effect is mainly to alter the secreting faculty of the intestines—the fluids habitually poured out are increased in quantity, and changed in quality.

Colchicum appears to have no effect upon the urinary secretion; and must therefore be rased from the number of diuretics.

Blood-letting.—In 19 cases of acute articular rheumatism, desiring to ascertain the effects of a somewhat energetic antiphlogistic treatment, the patients were bled at least three times each, in the course of the four first days, and cupping was further had recourse to around the affected joints, or to the region of the heart: only in two of the cases were tartar emetic and digitalis exhibited simultaneously. The quantity of blood abstracted was considerable,—large; and the venesections were repeated at short intervals. The mean stay in hospital of the patients thus treated was 14 days—about the same as when other plans of treatment were employed.

The effect of the blood-letting on the disease can always be judged of by the state of the pulse: if it becomes less frequent, and loses force and volume, and if the temperature of the surface at the same time declines, the disease will end; if the pulse continues frequent, the disease is not yet at its conclusion. Sometimes the pulse falls suddenly after the first or second bleeding and the disease appears about to be subdued; but it soon rises again to its old number, and matters go on as if there had been no prospect o amendment: the gradual and enduring fall of the pulse is the best sign of improvement; if it fall from 6 to 12 beats below its usual number, so much the better.

When the symptoms are not relieved by

the blood-letting within the first four or five days of the invasion of the disease, it is vain persisting in the abstraction of blood; the practice then is only injurious: bellows murmurs are set up in the heart and great vessels, the surface becomes drenched in sweat, the sleep is disturbed, the pulse is rapid, and the pains, far from diminishing, flit about from one joint to another, or remain obstinately fixed in those that were first attacked. The conclusion on the whole in regard to blood-letting is that in moderation it is useful, especially when practised early in the disease, within the first four days; after this, depletion by the lancet only reduces the patient, and renders his recovery more difficult.

Nitre.—Eight patients only were treated with nitre, and of the number one was affected with meningitis cerebro-spinalis, another with pneumonia. In all the rheumatism was recent and severe. The medicine was administered in doses of from 8 to 30 grammes (2 to 7½ drams) dissolved in tisan. Its influence appeared to be absolutely nil in the whole of the cases. The pains in the joints, the signs of endocarditis, underwent no kind of diminution under its influence. The pulse was not lowered, the febrile heat was not lessened by it. The quantity of urine passed in the 24 hours was not increased. In order to control the disease it was necessary in every case to have recourse to other means.

PARALYSIS OF THE ORGANS OF SENSE AFTER SCARLATINA:

RECOVERY UNDER THE USE OF IRON.

A HEALTHY girl, 9 years of age, whilst recovering from a trifling attack of scarlatina, and without assignable reason, was observed to be dull of hearing; by and by, to be blind, or to see very imperfectly; then to have lost all sense of taste, and finally, to be without smell; the common sensation and power of motion were unaffected. This state of affairs continued in spite of every approved plan of treatment essayed under the eyes of the best practitioners in the neighbourhood: internal medicines of all kinds, baths, sinapisms, blisters, moxas, and animal magnetism (!) The child was now put upon a course of steel, and a little wine was ordered for her, and with such good effect that in three weeks she was again restored to perfect health.—*Dr. Hoffmann, in Casper's Wochens.* No. 14, April 6th, 1844.

CHLORIDE OF MAGNESIUM.

DR. LEBERT recommends the chloride of magnesium as an agreeable, efficacious, and useful neutral aperient salt. The dose is an ounce for an adult, half an ounce for a young person: it increases appetite, promotes the flow of the bile, and does not leave the bowels in a constipated state after its action.—*Archives Gén. de Médecine.*

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

List of Gentlemen admitted Members, May 3.—D. W. Eaton.—R. Gosset.—J. S. Balley.—J. H. M'Greal.—J. Skelding.—J. H. Haddock.—S. B. C. Barrett.—H. Vevers.—J. M'Whinnie.—T. S. Howell.—C. Black.

May 6.—S. G. Downing.—A. Iles.—S. R. Pittard.—G. F. Mitchelson.—F. Fitch.—J. Lewis.—F. L. Clementson.—J. Clifton.—J. P. Walker.—W. N. Brake.—J. R. Theobalds.—T. Scott.—J. Hakes.

APOTHECARIES' HALL.

Gentlemen who have received Certificates, May 2.—T. Prosser, Garway, Herefordshire.—J. S. Knight, Folkestone.—A. Burleigh, Bristol.—R. Fletcher, Bristol.—J. Kilner, Ipswich.—D. Davies, Coombsaybren, Glamorgan.—T. B. Gildersleeves, Saxmundham.—G. Chubb, Manchester.—H. Johnson, East Dean, Midhurst, Sussex.—G. M. Henning, Sherborne, Dorset.—T. M. Parrott.—R. Duncan.—C. R. Morgan, Great Torrington, Devon.

MORTALITY IN THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, April 27.

Dropsy, Cancer, Diseases of Uncertain Seat	85
Diseases of the Brain, Nerves, and Senses..	171
Diseases of Lungs and Organs of Respiration	255
Diseases of the Heart and Blood-vessels	34
Diseases of Stomach, Organs of Digestion, &c.	60
Diseases of the Kidneys, &c.....	5
Childbed	6
Paramenia.....	1
Ovarian Dropsy	1
Disease of Uterus, &c.	1
Arthritis	0
Rheumatism	1
Diseases of Joints, &c.	6
Carbuncle	0
Phlegmon	0
Ulcer	1
Fistula	0
Diseases of Skin, &c.....	0
Old Age or Natural Decay.....	55
Deaths by Violence, Privation, &c.....	34
Small Pox	31
Measles	10
Scarlatina	35
Hooping Cough	27
Croup	11
Thrush	0
Diarrhœa	3
Dysentery	0
Cholera	0
Influenza.....	3
Ague.....	0
Remittent Fever	1
Typhus	38
Erysipelas	2
Syphilis	1
Hydrophobia.....	0
Causes not specified	2
Deaths from all Causes.....	880

WILSON & OGILVY, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, MAY 17, 1844.

ON

INJURIES AND DISEASES OF THE SPINE.

A Clinical Lecture,
Delivered at St. George's Hospital,

By Cæsar Hawkins, Esq.
Surgeon to St. George's Hospital.

Case 1. *Dislocation of dorsal vertebræ (?).* 2. *Partial paralysis from injury (?) or from lead (?).* 3. *Curious formation on the intervertebral substance with paraplegia.* 4. *Disease of spine (?) or spinal marrow (?).* 5. *Paraplegia from intemperate habits.* 6. *Disease of vertebræ or intervertebral substance.* 7. *Scrofulous caries of the spine, with psoas abscess.*

In systematic courses of lectures on surgery, given during the winter session, the student is accustomed to hear the causes, and symptoms, and consequences, of disease clearly defined; and the treatment necessary for its cure or alleviation regularly stated; and well-marked cases are selected to illustrate the more common and important complaints, while rarer maladies are briefly alluded to, or altogether omitted, owing to the short period allotted to the course. In some cases of disease the student recognises the same clearness when he begins to study them in the wards of the hospital; and he is at no loss to understand immediately the nature of the disease, and to follow the treatment which is employed; and he can test its inefficiency perhaps, or its power over the malady, according to what he has heard from his instructors. But it is not always so: he soon finds that many diseases are extremely obscure, and that the symptoms, in different cases of the same disease, vary so much, as to require corresponding variety of treatment to a much greater degree than he had been led to suppose. He thus learns the difficulty and the importance of *diagnosis*, that is to say, of the distinctions between different kinds and varieties of disease, for which some persons' minds are much better constituted than others. You will thus find that you have, in any obscure case, to pass rapidly in review every disease which is at all likely to occur in any given organ or tissue; to lay aside, successively, the symptoms and appearances which are common to all, or to several of such diseases, and select only the more distinctive characters, till, finally, only such remain as can belong to one of these diseases, or at the most to two of them, between which you are left to choose; and you will find that much patient observation, and much practical experience too, are required in some cases, especially in the more chronic disorders of any given part of the body. I think, then, that a clinical lecture is sometimes very usefully devoted to the rarer cases, and the more obscure and difficult circumstances, which it is not the province of the systematic lecturer to dwell upon.

Among the parts of the body the disorders of which are sometimes very intricate and difficult, is the spine; in the injuries and diseases of which part you are presented with many similar symptoms, both locally as well as from interruption of the functions of the spinal marrow, whether the disease be situated in the bones or ligaments, and other textures belonging to the spinal column, or in the spinal marrow itself, or in its membranes, such as inflammation, softening, new growths, and so on; or even, sometimes, when there is no disease of these parts at all, but the cause is actually seated in the head, and the spinal functions are only secondarily impaired. I propose, then, in the lecture of to-day, to pass briefly in review a few cases of injury, or the consequences of injury, of the spine.

1. The first case I will notice is one of injury to the spinal column, without any injury of the spinal marrow within; at least its func-

tions are not in the least interfered with. It is that of John Campion, æt. 52, who was admitted April 15th, about ten minutes after he had been driving under an archway, and, in the act of stooping, his shoulders came in contact with the upper part of the arch, which bent him very considerably. When admitted he was in a state of collapse, and could not support the weight of his body, although there was no paralysis of any part. I saw him about an hour afterwards, at which time he was still in a state of collapse, and the dorsal vertebræ, from about the sixth to the twelfth, were bent in a curved form backwards, and there was a deeper depression between the spinous processes of the seventh and eighth vertebræ than between any of the others, and there was a great effusion of blood about the injured part and among the long muscles of the back; there was also excessive pain and tenderness, which wholly prevented the patient's moving; and he had much pain across the lower part of the chest, and difficulty of breathing, which were in part owing to previous illness.

Here, then, was an accident which is frequently fatal, but in this case is not likely to be so, as the spinal marrow seems quite safe. What is the nature of the injury? The preparations on the table shew you that the usual result of such an injury is a dislocation or fracture of the bodies of the vertebræ; and if you look to this preparation, from a patient of mine, who lived, I think, five months, so that the fracture is perfectly united, you will see that the body of the vertebræ is considerably shortened and crushed down, so that an abrupt angle is formed posteriorly by the spinous process, while a portion is driven into the spinal canal so as to lacerate the spinal marrow. In this patient (Campion), however, the curve was not an acute angle, but a segment of a circle, in which several of the vertebræ participated; it was such as you may witness in a case of common lateral curvature from weakness. The man, however, is positive that the back was straight before the accident.

Dislocation of the spine, without fracture, has been denied by some surgeons, and is generally considered very rare. I have seen it, however, several times, and there is no doubt of its occurrence. In this preparation you may see the intervertebral substance between two vertebræ quite torn up without fracture, though there was fracture of another bone in the same patient. It is, of course, most common in the neck; and you may here see a complete separation of the bodies of the fifth and sixth cervical vertebræ, from a patient of mine, in whom the bones were quite uninjured, unless there be a small portion of one articular process broken off, which appeared to have been done after death. The displacement was sufficient to injure the spinal marrow, although the posterior longitudinal ligament was not torn; and what was curious, in the same patient, who fell from a window upon his head, the sternum also was quite broken across, though the periosteum on the inside of the bone was not injured.

Now I was inclined, at first, to believe that, in our patient, there was a laceration of the interspinal ligament, allowing the spinous processes to separate, so that the finger could be pushed between them; that this laceration might extend through the ligamentum subflavum, but that it probably did not, as the effusion of blood was so great that, if it had done so, some blood would have been likely to enter the spinal canal, and press upon the spinal marrow. If you observe the effect of my changing the position of the articular processes of these two vertebræ, you will see that, if I displace both at once, the upper part of the spine sinks forward, so that the spinous processes do not project so much as they ought to do, if you look at their line laterally; and that, if I dislocate one joint only, the upper vertebræ must be twisted, so that the line of the upper spinous processes, viewed posteriorly, does not correspond with those of the lower ones. It was quite clear that one articular process was not dislocated, and I thought, also, that the line of the spinous processes was not altered as if both were displaced. Since the blood has been absorbed and dispersed, however, there is an appearance of the upper vertebræ having sunk forwards and downwards; and as I made extension of the spine, and pressed on them without altering the curve, and without feeling any crepitus, as of broken bone, I am induced, on the whole, to think it probable that the articular processes may have been thus separated, and dislocated, though certainly without much, if any, laceration of the intervertebral substance. The great curve of so many vertebræ may have arisen from the quantity of blood driven among the long muscles, and therefore as this dispersed the curve has lessened; indeed, now it has nearly disappeared.

In the treatment of the case you will have observed that I directed him to be cupped to ten ounces on the day after the accident, as the pain was still excessive; and our notes tell us that, on the 17th, the pain was lessened after the cupping, notwithstanding the jar of an old cough, with mucopurulent expectoration, and he was directed to lie on his back on a hard mattrass, with a small pillow for his head. On the 27th the depression still existed to a considerable degree, and is not yet gone (May 7th). He can now turn pretty readily in bed, but is

unable to support his weight; so that, if he sits up, he is obliged to bear the weight of the upper part of the body by resting his hands on the bed. Our notes also remark that there was, yesterday, some pain round the lower part of his chest, reaching to the spine. If there be laceration and displacement of the vertebræ from one another, we may expect that it will take some time to unite the ligaments again, and to guard against inflammation and its future consequences; and on this account I ordered him a blister, which we must repeat as often as pain requires it, or weakness remains likely to end in further mischief. With this caution there seems to be no reason why he should not become strong again.

2. In the same ward with this man is another, who has a curious local paralysis, which affects one hand and one leg.

William Cooper, æt. 34, admitted February 14th, after he had been buried, with two other men (who are now cured), for three hours, by the falling in of a sewer, but not in such a way as to interfere with his breathing. On admission, he was perfectly sensible, but seemed much alarmed, and shook much from this cause. He complained of pain in the left side on inspiration, but appeared to have no fracture of the ribs or any other bone. The next day he had had no sleep during the night, owing to pain and stiffness, and complained of numbness on the left side, which he attributed to his position under the gravel.

16th.—Less numbness of the side this morning; complains of a little giddiness; he has lost the power of flexing and extending the fingers of the left hand, and the power over the wrist-joint is gone also.

On the 17th, our notes say there is less numbness of the side, but he feels more pain in it, and now the right foot is found to be partially paralysed in exactly the same way as the hand; the sensibility of both the hand and foot is also impaired, so that slight pressure is not felt, and harder pressure gives a sensation of pins pricking him: the bladder and rectum are unaffected. Pulse 72, weak; but he complained of more giddiness, with pain in the head confined to the back part. For this I had him cupped on the neck to six ounces; and on the next day the notes say the pain and giddiness were relieved.

On the 20th, a curious numbed sensation in the head was spoken of, but it has not been again noticed; the partial palsy, and lessened sensibility, however, remain nearly the same now (May 7th) as at that time.

Now the question is, on what does the paralysis depend which has been the result of this accident? There has been no symptom, in the first place, making it likely that the head was injured; such partial palsy is a very rare circumstance in any case, and he has made no complaint referrible to the brain except of the giddiness and a little pain, and the curious numbed feeling, before mentioned, which soon subsided; and the only remedy of any consequence was the small quantity of blood taken by cupping early in the case, which was done, in the uncertainty attending the injury, quite as much with reference to the spinal marrow as to the brain. Secondly, does the palsy depend on any injury of the spine? There has been, you will remember, no affection of the bladder or rectum, there is no palsy of the abdominal or thoracic muscles, there is no paraplegia, that is, no paralysis of both hands or both legs, or of all the extremities in greater or less degree, but only of the left wrist and the right foot; and such partial palsy is at least very rare after injury of the spine, though there is great irregularity at the commencement of any chronic disease of this part. Is there, then, any injury of the nerves in their course? This seems to be the feeling of the patient himself, for he says he remembers well his left wrist being doubled down, and kept there by pressure of the wood and gravel under which he was confined. Still, however, there has been no swelling like inflammation; and the pain at first was more complained of in the left side of the trunk of the body, where there is no palsy, than in the hand or foot. You may remember, however, my having more than once questioned him as to the possibility of his having been exposed to the influence of lead, for his hand drops, and has exactly the same appearance as in the partial palsy which is common in painters from the use of lead. A man was under my care, a year or so ago, with exactly the same palsy of one leg and one hand, though it usually affects the hands only; he came in for an injury of the knee, and the palsy being of only five weeks' duration, I was able to get him well. A similar paralysis arises also from other metals: I remember, for example, being myself instrumental in causing it in a woman who was ordered to have some arsenic and nitric acid applied to a large spot of lupus of several years' duration on the nates, which had resisted other remedies. The lupus was permanently cured by it, but besides the poisonous influence of the absorbed arsenic on the stomach, which subsided in a few days, there was a partial palsy and numbness of both hands and both feet, which continued in a less degeee several years afterwards, when I last saw her, so that she could not work with her needle. How the metallic poison acts may be doubtful; it has been sought for in vain in the brain or spinal marrow, but has been said to have been found in the muscles; at all events it is absorbed into the circulation so as to produce the distant effects

just described from external application, which is also evident from a fact, first observed by Dr. Burton I believe, namely, that a blue line at the margin of the gums is found in those suffering from the effects of lead. Our patient has not such a line distinctly, but there are several blue spots which look suspicious: it does not appear, however, that he has had anything to do with lead, nor that he has been in any circumstances likely to have exposed him to its influence; and he is positive that there was nothing the matter with him before the accident.

In this state of uncertainty, then, as to the cause of the palsy, I have been somewhat at a loss what to prescribe. I have used, you will observe, a splint for the hand, which is of service in the dropping from lead, and I have treated the case, as if local, by friction and blisters in the course of the nerves in each extremity, which have not done much good: he has used electricity, which he thinks strengthens the limbs a little, first with sparks, but the machine has been imperfectly used, and at present in the form of galvanism, and he is now beginning to take tincture of cantharides internally, which will do good in some cases of palsy. Should he not be benefited by this treatment I think I shall employ blisters to the spine, that is, to the source of the nerves, which are of great service when partial paralysis remains after injury of the spine.

The bad consequences of injuries to the spine are sometimes very slow in their progress, and last a length of time; so that attention must be paid to any complaint of remaining pain, and stiffness, and weakness, after such accidents, in order, by the proper use of cupping and rest, followed by blisters, or setons or issues, to prevent a fatal result. The more common of the consequences of falls, or blows or strains of the spine, are caries of the bones, or ulceration of the intervetebral substance; but there may also be a variety of new growths about the spine. A very curious and rare form of alteration of structure following injury has been lately under our notice, which is not destitute of interest: it is the case of

3. Henry Senfield, æt. 53, admitted April 17th, with paralysis of the lower extremities, almost complete, and partial paralysis of both hands. From his appearance and manner I believed that it was more a medical than a surgical case, but I admitted him, as he gave this history: "that he had a severe strain in the loins two years ago, and had lost the use of his legs about nine months, which were much wasted, but perfectly sensible to the touch." He was in the Bath Hospital for a month, two years ago (that is, soon after the accident), and was treated with cupping and issues, and was dismissed as incurable; and was treated in a similar way in the Middlesex Hospital, and sent out thence also as incurable. On seeing him the next day, I found that there was no pain on percussion of the spine, and no projection of any part; the affection seemed confined to the anterior part of the spinal marrow, as is generally the case with caries of the spine, but the palsy was too general for any caries except in the upper part of the spine, of which there seemed no evidence; and as he had a severe cough, with much frothy mucus, and appeared very ill altogether, I transferred him to the physicians' care. He died a few days afterwards (April 27th) of inflammation of both lungs, of which the post-mortem book contains an account, but which I will not read to you, as it is irrelevant to our present subject. "The substance of the brain was very firm, but the ventricles contained a large quantity of transparent fluid." This, however, although paraplegia may arise from some diseases of the brain, did not seem likely to have occasioned the partial paraplegic symptoms of our patient, and the examination of the spine was made, the bodies of which, in front, were unaffected. On opening the canal, "the spinal marrow and its membranes were healthy," so that the case did not appear more clear; but on taking out these parts it was found "that on the posterior surface of the intervertebral cartilages were, in two or three places, small yellow, opaque, friable bodies, immediately in contact with, and apparently growing from, the intervertebral substance. The nature of the deposit could not be determined, but it certainly did not look like scrofulous matter. The largest of these bodies was situated in the lumbar region, and the smallest in the lower part of the cervical region. They projected into the spinal canal, and must have caused pressure upon the anterior column." You will see that the largest of these little bodies is not much larger than a pea, and the appearance is nearly lost by maceration in spirit; they appeared to me to be very similar to the intervertebral substance itself, a kind of hypertrophy of these bodies, but yellower, firmer, and more brittle. I may observe that their direct pressure must have had less influence on the spinal marrow than some indirect effect on the circulation of this body and its membranes. Hence it is, of course, that, in caries also, the motor power is commonly alone impaired, the effect on the spinal marrow being on its anterior part only, which is more immediately in contact with the bodies of the vertebræ, which are the seat of the caries, and the same, also, in ulceration of the intervertebral substances; and whenever there is much loss of substance, with sloughing and deficiency of vital power in the parts below the disease, you may be

sure the cause must be one which affects both columns of the spinal marrow, which caries is not likely to do. In our present case, then, we had paraplegia from an accident likely to have caused disease of the spinal bones or ligaments, affecting the nerves of motion only: the exact nature of the disease could not be known, for I never saw another instance of it. The symptoms so far differed from those of caries that I expected to have found some disease of the spinal marrow rather than of the bones, as it really proved on dissection, though of a very rare form of altered structure.

4. The next case I will bring under your notice is also one of alleged injury of the spine; but it is attended, like it, with some obscurity of symptoms, though the history seems clear enough.

William Marks, æt. 23, admitted on the same day as the last patient (April 17th) with supposed disease of the spine, of which he gave the following history:—About sixteen months ago he had a fall across the abdomen, and in three or four days his back became painful and stiff, and soon afterwards, in lifting a weight, he felt something snap in his back, and he could not stand for six or seven hours afterwards: he then became an out-patient for six months, and got quite well. About five weeks ago he slipped off a plank on to the side of a barge, with a sack of coals on his back, and directly he felt his back bad again, which has been getting daily worse.

On examination, the spine was straight; no pain was felt on percussion on any part of the spine. He complained chiefly of starting pains, particularly on motion, and great pain on pressing across the lower part of the loins, where the long muscles were very tensely stretched. The tongue was clean; pulse natural; and he said he was in good health. There was no numbness of the legs, but he could not stand on them on first getting out of bed, from pain in the back. The urine was natural. A day or two afterwards he complained of more pain in the back and in the shoulders, with startings and twitchings of the arms, and now he complained also of pain, on percussion, of the lower dorsal vertebræ, and of a sense of constriction across the chest and abdomen.

Here, then, we have many of the symptoms which disease of the spinal column in the part to which the pain is chiefly referred would have occasioned, but there was a greater contraction of the long muscles of the back than usual, and some affection of the upper extremities was spoken of, and although the spinal marrow is sometimes affected above the seat of the disease, yet it seldom goes so far upwards as from the loins to the axillary plexus. Again, pain is often complained of below the real situation of the disease; so that I have many times seen setons or issues employed upon one part of the spine, while a curve has subsequently shown itself above the part supposed to be carious: still, I scarcely think there can be caries near the upper part of the back to cause the twitchings of the arms he has spoken of. Something in the man's appearance induced me to suspect there might be another cause of paraplegia, which is too frequent, namely, intemperance of life. Indulgence in wretched school habits, or over indulgence in sexual intercourse, are well known to occasion paraplegia by producing softening probably of the spinal marrow, as if the excitement of the sentient nerves, and of the reflex actions, as they are called, ended in alteration of structure of the centre of the medulla. In such cases, to distinguish them from cases of caries, you will commonly find all the extremities more or less affected, sensation impaired, and there is more spasm of muscles than is usual with ordinary caries; the mind is weakened, so that the memory is defective, and the patient is subject to low spirits and fits of crying; the countenance is pale, and the pulse feeble, and there is a downcast look of suspicion and shame, while no part of the spine can be fixed on as the exact seat of disease. I could not well put our patient into the confessional with twenty or thirty of you round the bed, and therefore directed the question to be put in a more private way, and our notes of May 3d say that he owns to masturbation, and that he has been a great rake; so that both causes may have been in operation at once.

A very well-marked instance of paraplegia from onanism was under my care not long since, which some gentlemen may remember; and I will read the notes of the case, to illustrate the diagnosis in our present case.

5. Henry Perrin, æt. 32, was admitted June 15th, 1842, giving the following history of the paraplegia under which he laboured. When about 16 years of age, he fell from a height of about seven feet, and struck the back of his head, and he says he was weak in the back afterwards. Seven years ago he again injured the back of his head by a fall from a load of goods, and was laid up for it some time, having blisters applied to the neck. Soon after the accident, the right arm became weaker than usual, and about three years ago the left arm also became weak; says the right leg has been weak several years, and both are so now, so that he can scarcely direct his steps. He is unable to retain his urine for any length of time, and the bowels are very costive; memory failing, and he is very nervous, and easily cries. Sight not affected, nor his hearing. Has no pain in the head. Urine

pale, acid. Sensibility lessened, so that he does not feel a blister. Temperature of axilla and groins the same, both being 100°, yet his feet feel cold. No disease of spine was apparent, and, on inquiry, he confessed to having indulged in excessive onanism from the age of 16 to 26, which practice was extended to the present time in reality, for he complained of convulsions coming on when he went to sleep, and then acknowledged that he caused the convulsions by a continuance of the same fatal habit.

You see, then, that an account of injuries and accidents likely to have occasioned disease of the spine may be given by the patient, and yet the real cause may be very different. The unfortunate victims to the propensities in question learn something of the nature of disease, and endeavour to deceive the surgeon, and conceal their delinquencies; there could be no doubt, however, of the cause of the paraplegia in this case, and some of the signs I have enumerated will generally enable you to distinguish a well-established case.

I have doubts, then, about Marks's case, and in the earlier stages of a chronic disorder, like the softening, if it be so, which dissipation creates, it is of course much more obscure than at a later period. With regard to the treatment of his case, I at first contented myself with watching the man to see if anything very decided would show itself; for in a chronic and obscure disorder it will often require more than one visit to obtain the whole history from the patient, and to observe every symptom actually present, and some fresh symptom may shew itself to decide a doubtful point. In a few days, as much pain was complained of, I had him cupped, and again on the 29th, as the pain was again increasing.

May 3d.—The notes say the pain was less, and then I ordered a blister, and repeated this yesterday, as the first had scarcely risen, and I have directed it to be kept open, and he now says he has lost the twitchings of his arms. I am treating it, in short, in a manner that is calculated to do good in either case; and if it prove, as is perhaps most probable on the whole, that there is disease of the lower part of the spine, I think it is often best to precede the use of issues by cupping, followed by one or more blisters. If, on the other hand, there should appear reason to think that my suspicions of the influence of the patient's habits are strengthened or confirmed, issues will not be called for, and a different practice may be required, which I will not enter upon.

Having brought before you these more rare or more difficult cases connected with the spine and spinal marrow, you will do well to contrast them with plain and evident cases of common disease of the spine, of which two instances are under my care, which I will briefly allude to.

The effects of loss of substance in the spinal column are seen in the preparations on the table, in some of which there is inflammation of a healthy character, that is, without scrofulous deposit, the intervertebral substance not being at first affected, in which cases the bone remains hard, and is not much destroyed by ulceration, and parts occasionally become necrosed; in others, the bones are first filled with scrofulous matter, and so many of the bones are sometimes simultaneously carious, that the loss of figure is very great; in others, again, the intervertebral substance ulcerates first, and the disease may be, as you see, altogether confined to this structure. For practical purposes, the healthy caries, which takes place in adults for the most part, may be classed along with the ulceration of the fibrous cartilage between the bones, for I do not think you can always distinguish them from one another. Of this kind of caries an example has been afforded in a man who has been several months in the hospital.

6. Richard Nicholls, æt. 29, was admitted Sept. 6th, with angular curvature of the 7th dorsal vertebra, with weakness and pain in the loins and hips, extending down the inside of the thighs. He can walk but little, and that with pain and difficulty; and the legs start a little at times. He was in the hospital under my care seven years ago, and had issues kept open for nearly seven months; after which he was able to go about till about a year ago, when he came into the hospital under Mr. Babington, and had issues kept open for three months. He went out relieved, but not able to work; since which time he has been attended by a surgeon in the country, who has passed setons which are only just healed. On his admission this time I again ordered issues to be made, and under their use he has gradually and steadily improved, though he has not altogether lost the pain and starting, nor quite regained the power of motion: he can, however, walk much better than on his admission.

In cases of this description you can in general look forward with tolerable confidence to a cure, if the patient's constitution is in a comparatively good state; they have not much tendency to the formation of abscess, and the disease is slow in its progress; issues have great power over the ulceration, and nothing else can be trusted to with the same satisfaction. The issues require to be kept open for a considerable time, unless the irritation is itself injurious. You will observe that seven months was the time I first employed them, and the patient then had nearly six years' freedom from disease, till a year ago a fresh accident or strain, or

some derangement of health, reproduced the disease: three months was then insufficient to check it, and I shall probably keep them open this time for a year or more, and most likely, after the pain is quite gone, I shall have them kept open for some time, even after I have thought it prudent to let him again walk about. The chief difficulty in the treatment is to ascertain when gradually increasing the motion and exercise of the part will no longer be injurious, and you must feel your way carefully.

Such cases are strongly contrasted with scrofulous caries, which affects young persons chiefly, is attended very often with little or no pain, and frequently goes on rapidly to the formation of matter in the shape of lumbar and psoas abscesses: the employment of issues and even of blisters is injurious instead of useful, by the irritation and weakness they occasion; you must trust solely or chiefly to the influence you can excite by steel, and other tonics, on the general health, except in some young persons in whom the pain is greater than usual, and the disease perhaps is less scrofulous, in whom leeches once or twice, or one or two blisters at first, relieve the inflammation without weakening much; after which, rest, and the protection afforded by light stays, are the only local remedies you are to have recourse to. An example of scrofulous caries is afforded you in a girl now in the hospital with a large psoas abscess.

7. Eliza Grey, æt. 18, admitted March 20th with a fluctuating tumor in the right femoral region. She was in the hospital last year under my care for fistula lacrymalis of three years' duration, and went out in August last, wearing a style in the duct. Soon after she went out, she says, she jumped off a window-sill about six feet, and fell on her side, which has caused lameness of the right hip ever since, and at this time she first perceived pain in the back, and shortly afterwards a swelling appeared in the groin. There is, our notes say, a fluctuating swelling about three inches in diameter just below Poupart's ligament, and fluctuation can be felt by pressing above, that is, the iliac fossa is full of matter, communicating under the ligament with the swelling in the groin. She complains of pain on percussion of the lower dorsal and upper lumbar vertebræ, where there is an apparent but slight lateral curvature to the left, and she complains of pain in the hip when walking, which appeared to be owing to the proximity of the abscess. The patient is of scrofulous appearance, and has a scrofulous abscess of a cervical gland, and another on the left cheek, in addition to that of the lacrymal sac.

There is no doubt, then, of the nature of the disease in this case; that there is caries of scrofulous origin in the spine, ending in abscess. Psoas abscess, in fact, scarcely ever takes place without your finding some disease of the bones of the spine, though it used to be supposed that it did so not unfrequently; and of course, too, when of such a size as in our patient, the disease is frequently fatal.

The only practical point I shall speak of in her case regards the abscess: are you to open them? and if so, in what manner is it to be done? It is observed that opening these large abscesses is not unfrequently succeeded by severe constitutional derangement—rigors, fever, secondary abscesses, and death; and it has been supposed that this arises from the entrance of air, and that opening the abscesses, and immediately closing them again, is likely to prevent these dangers. My own opinion is, that the mode of opening them is of much less importance than has been imagined; that the symptoms depend not on the entrance of air, but on the condition of the abscesses, on the sac being inflamed, on the secretion being unhealthy from communication with bone or mixture of blood, especially if you squeeze the abscess, and thus injure the blood-vessels. You will, therefore, often see exactly the same symptoms when the sac is in this state, without its being opened at all, or whether you close it or leave it open after you have punctured it. I remember a young woman who had a lumbar abscess, with rigors, and fever, and pain, in her side, and the sac was red, and increasing rapidly, and I said to the students, I don't like meddling with this abscess, for it is in such a state that I dare say she will have absorption of foul matter and secondary deposits. I was obliged, however, to do it, and, as I anticipated, she had on the third day rigors and perspiration, and died in a few days more with secondary deposits. I do not wish you to understand that the air entering a cavity may never do harm; you have only to compare a simple and compound fracture to see that it may do so; and accordingly, if there is blood mixed with pus in the abscess, the access of air is likely to assist its putrefaction, and make the secretion foul and poisonous. When your patient has rigor or perspiration or fever before you are obliged to open a large abscess, it is better to make a free opening, and let it remain open afterwards; if, again, you find the matter is dark coloured or offensive, or blood escapes into the abscess, do not close the puncture, lest it inflame subsequently, and foul pus be confined; but if, on the other hand, you open a psoas abscess on account of its size, or its rapid increase, and there are no constitutional signs of inflammation in the sac, and if when you let out all the pus, you find that it is healthy, and free

from blood or offensive smell, there is no reason why you may not open it in the way recommended by Mr. Abernethy, and it may possibly contract, as I have sometimes seen it do, and by rest and other measures be prevented from filling again. If you are obliged to puncture it again, you may at a future time let it remain permanently open.

As there seemed no reason against it in this girl, who had slight chills only at night, and no distinct fever, and as the abscess was increasing, I punctured it with a trocar, letting out on April 6th about ten ounces of healthy pus, and closed the orifice. Again, on the 15th, I evacuated about twenty ounces of pus, thinner than before, and with a few lumps of cheesy matter. Perhaps I may do the same again; or, if it seems to fill rapidly, I may leave it open to discharge constantly. The case is, however, a bad one, owing to her state of health.

[May 10th.—Mr. Hawkins again let out about twenty ounces of pus, and on neither occasion was any fever produced.]

PUERPERAL CONVULSIONS:

THEIR FREQUENT ASSOCIATION WITH ALBUMINOUS URINE.*

Dr. Lever informs us that, out of 7,404 women, attended between the years 1834 and 1843, by the pupils attached to the Lying-in Charity of Guy's Hospital, 14 cases of puerperal convulsions occurred,—3 in the anæmic, 11 in the sthenic form, of which latter 2 proved fatal. The cases are given in detail: in 7 the children were born by the natural efforts, in 3 the delivery was effected by the forceps, in 2 by version, and in a twin case (which recovered, and in which the convulsions preceded and continued after delivery,) the first child was also extracted by the forceps, and the second by version. In the remaining case, one of the anæmic form, where the seizure occurred three days after delivery, there was partial presentation of the placenta, with a footling and funis presentation of the child, which had been dead some days. 8 women were primiparæ. In 2 the convulsions appeared *before*, in 10 *during* labour, and in 2 not till after delivery. 11 of the 15 children produced were born alive, including 3 extracted by the forceps, and 1, the second of twins, by version.

Dr. Lever observes that the symptoms which marked the course, and the principles which guided the treatment, of these cases, presented no new or extraordinary feature; but the coincidence of an albuminous condition of the urine, in nine out of ten cases in which it was examined, is a *fact*, so far as his investigations and inquiries have extended, which has not been previously remarked.

Having met with a case of convulsions where, from the previous existence of anasarcous symptoms, it was regarded as pregnancy complicated with granular disease of the kidney, but where the woman recovered, and all traces of albumen in the urine disappeared, Dr. Lever was led "to suppose that the albuminous condition of the urine depended upon some transient cause, probably connected with the state of gestation itself." He therefore carefully examined the urine in all the cases of puerperal convulsions that subsequently occurred in the Lying-in Charity and in private practice, and found it albuminous at the time of the convulsion *in every case but one*, in which inflammation of the membranes of the brain with considerable effusion was found after death. He further tested the urine drawn off by the catheter during labour, and with precautions to prevent the admixture of vaginal secretion, in more than fifty women, and the result was, "that in *no* case was albumen detected except where there had been convulsions, or their recognized premonitory symptoms. Urea was sought for in the blood in one instance, but not detected." Dr. Lever's experience leads him to the conclusion, that "cases of convulsions complicated with an albuminous condition of the urine are divisible into two forms: in the one the urine is *albuminous during pregnancy*, of which there are external evidences, as œdema of the face, eyelids, hands, &c. In such cases the convulsions will be more violent, will last for a long time after delivery, and the urine will long retain its albuminous properties. In the second variety the urine becomes *albuminous during the labour*. The albumen is less abundant, and speedily disappears after delivery. The fits are less violent, and seldom reappear after the labour has been completed, but if they do it is in a milder form, unless complicated with lesion of the brain.

* Guy's Hospital Reports, 2d Series, No. 2.

Dr. Lever considers that Mr. Robinson, in his "Inquiry into the Nature and Pathology of Granular Disease of the Kidney, and its Mode of Action in producing Albuminous Urine," has satisfactorily proved that causes which induce congestion of the kidney by preventing or obstructing the return of blood through its veins, as abdominal tumors, &c. will produce renal congestion, and is of opinion that the gravid condition of the uterus by its pressure prevents the return of the blood through the emulgent veins, causes renal congestion, and the consequent albuminous condition of the urine. This congestion may take place towards the close of pregnancy, or it may not be excited, and the albuminous urine present, till the onset and progress of labour. He further remarks, that great similitude exists in the appearances presented by females attacked with eclampsia, and those observed in persons affected with albuminaria. In neither case do the convulsions strictly deserve the term "epileptic." Epilepsy is a chronic disease, while puerperal convulsions, and the convulsions which attend the morbus Brightii, are of a clonic character.

The treatment advised by Dr. Lever in the sthenic form consists of active depletion, the prompt and regular exhibition of tartarized antimony and purgatives, because, he remarks, "it is no unusual thing to find large scybala evacuated, even though the bowels may have been daily relieved." Mercury requires great caution, as the system is very readily affected in puerperal convulsions attended with albuminous urine, and when its specific effects are produced, the diarrhœa, ptyalism, and consequent debility, are extremely distressing, as well as difficult to remedy.

He deprecates artificial dilatation of the os uteri (which may induce a convulsion), is no advocate for rupturing the membranes and inducing premature labour, and is altogether opposed to incisions in the vaginal portion of the os uteri, as recommended by Velpeau, but strongly advises delivery as soon as the state of the parts through which the child has to pass will permit. If the membranes are unbroken, the os uteri soft and dilatable, and the external parts lax and moist, version may be performed, but unless circumstances call for immediate delivery he would rather wait till the head can be seized by the forceps or vectis.

DR. POWER ON THE THEORY OF MENSTRUATION.

To the Editor of the Medical Gazette.

SIR,

A PAPER, bearing the signature of Anglus, has lately appeared in your journal, which professes to give a faithful statement of the progress of discovery in the true theory of menstruation. As I have reason to regard that statement imperfect, and calculated to detract from my own claim, or merit, as the original promulgator of the theory to which it alludes, I rely on your sense of justice to insert in the forthcoming number of the MEDICAL GAZETTE the following remarks.

Although my Essay on the subject was not published until the year 1821, the theory to which it relates virtually dates back as far as 1807, when I was a student in the Windmill Street School of Anatomy, conducted by the late Mr. James Wilson. In a form substantially the same it was at that time submitted to Mr. Wilson, and also to the late Dr. Clark, or his brother the present Sir Charles Clark, who were lecturing on midwifery conjointly, in John Street, Golden Square; I am not at this distance of time certain to which, but I believe to the latter. These gentlemen pronounced my views "ingenious," but they did not appear to excite much interest in their minds. It must be recollected, however, that at that period the knowledge of physiology was much circumscribed by the high authorities of Haller, Hunter, and some few other leading spirits; to depart from whose opinions, or to attempt to advance beyond them, was apt to be regarded as a species of presumption; that principle of practical investigation, which has since characterized our profession, then only partially existed. This was a state of things which would naturally tend to discourage what might be regarded by those gentlemen as hypothetical innovation; and yet, I well recollect that Mr. Wilson, in his lecture on the subject, stated that the nature and uses of

menstruation comprised one of those arcana, the discovery of which would immortalize a man, but which, during two thousand years, had received no additional light; and I also remember that this dictum was the main spring of my own attempts to unravel its causes.

The opinions I was in consequence led to entertain were the results of much reading and severe reflection; and I am not ashamed to admit that they were chiefly obtained from these sources, and by attentive comparison of causes and effects, and by no means, as Anglus has asserted, from analogy alone. I did not neglect to examine the female ovaria, where I found abundance of those appearances which Harvey, Hunter, and others, termed ova, corpora lutea—true or false—although they did not refine so far as to draw distinctions between the former and ovules, Graafian vesicles, &c., &c.; anatomy had not then proceeded thus far.

It was my fortune for the next thirteen years to be engaged in country practice, where the prejudices against the examination of the human body after death precluded every chance of confirming my views by the inspection of ovaria.

When my opinions were published in 1821 they were perfectly novel and original; for it is impossible to regard the observation of Kerkringius as unfolding any view analogous with them; his opinions evidently corresponded with those of Harvey, Fallopius, De Graaf, and others, who, about that period, laboured much, and successfully, to show the origin of the human fœtus ab ovo, with the additional observations that "aliquando fœminæ dejiciunt hæc ova imprimis tempore menstruarium," and there is no ground for imagining that he contemplated any co-relation between these ova and menstruation in the production of the latter process, of the true nature of which he was as ignorant as any of his predecessors or contemporaries.

Nor is the recited case of Cruikshank more to the point: although this distinguished physiologist detected a laceration on an ovary from which he "suspected an ovum had descended into the fallopian tube, and been then washed out by the menstrual blood," he never regarded this ovum and the menstruating action as connected together in the chain of cause and effect; on the contrary, he evidently considers the ovum in question to have been detached as a sequele of impregnation, and its removal by the menstruating process as an accidental and extraordinary occurrence; nor did he attempt to found upon the fact any theory of menstruation.

What, then, do the observations of Anglus on this case amount to? Why, that Dr. Power has not taken notice of a predecessor who had not one idea in common with his own, but who had observed a fact, the account of which, at the time of publishing his theory, Dr. Power had probably never met with, and which had he claimed to have done so, would have assisted in the confirmation of that theory; and, ergo, that Dr. Power is entitled to a less portion of merit than he would otherwise have had a claim to!

As it is most gratifying to an ardent mind to receive encouragement when it believes that it has suggested an important improvement, so it is proportionately depressing when its efforts are met by neglect or ridicule. My fortune has been to be virtually encountered with both: for nearly forty years that have passed since the promulgation of opinions, which it now appears were not devoid of truth and value, not one cheering word escaped from the professional world around me; on the contrary, when my Essay was published, in 1821, the notice taken of it by the leading periodicals held its author up to contempt and ridicule. One regrets that I should have occupied my time, which might have been so much better employed in useful practical pursuits, in building up such vague hypotheses*. Another, after supporting a series of hypercritical observations by imperfect and garbled extracts, not only refused to admit any reply, but, in a note appended to a succeeding number, indulged in such grossly indelicate language, that I should be ashamed to sully your pages by quoting it†. Oh! the baneful, the pernicious effects on science which may be produced by the ignorance, stupidity, or incapacity of

* London Medical Repository, 1821.
† London Medical and Physical Journal, 1821.

those who pretend to direct public opinion! Had the journalists simply said, what the results would have justified, "the opinions of the author are novel and peculiar, but require patient investigation to confirm them," it is possible that no opportunity would have been afforded, in this particular instance, either to Dr. Robert Lee, or M. Gendrin, or any other individual, to say a word on the subject.

Anglus has stated that, in 1831, ten years after its publication, "Dr. Power's hypothesis had nearly sunk into oblivion." This was a fate by no means improbable, considering the apathy with which it was received by the profession, but which, had it happened, would not have redounded to its credit. The assertion, however, is not true, nor could it possibly be so, inasmuch as during the whole of the period mentioned its author never ceased to instil his "*hypothesis*" into the minds of numerous pupils, many of whom were fully impressed with the opinion of its value and importance.

It may be asked why, during this period of ten or more years, when I occupied the station of a lecturer in London, I did not find opportunities of more fully illustrating and confirming my theory, particularly as in the preface to my Essay I have admitted, that, notwithstanding it appears to be well supported by many well-established facts, it was not likely to be deemed a perfect explanation until a better intelligence was gained of the nature of the generative, and more particularly of the ovarian actions. I might reply, that whatever opportunities offered themselves, calculated per chance, in the course of anatomical research, to afford such confirmations, the probability was comparatively small of my meeting with them, unaided as I was by any sympathy or co-operation on the part of the profession: even, in this respect, what few notes of dissections I was enabled to make, together with the whole of my books and papers, were subsequently destroyed by fire. But other reasons or circumstances influenced me: I already considered the theory sufficiently "supported by well-established facts" to ensure its vitality; and discouraged, if not disgusted, by the reception it had met with, I determined to leave it to its fate, until future and more enlightened times should admit it among the acknowledged facts of medical science; in short, Mr. Editor, I was in some measure guilty of the unnatural conduct of abandoning my offspring; but I at the same time felt convinced it would ultimately, and that probably better without my assistance, make its way in the world: still, *it is the child of my own brain*, and I may be pardoned for feeling sufficiently proud of it, not to be willing, contentedly, to relinquish my paternity to another.

In the year 1832, I quitted London, and resided for some years on the Continent, but although thus virtually withdrawn from the profession, I never ceased to be an attentive observer of the progress of opinion, or relinquished the conviction that my views, founded, as I believed them to be, in truth, would ultimately triumph. I must confess that I have been not a little amused, during this later period, at the attempts of individuals to assume to themselves the originality of discovery, and especially of the French physiologists, who I have reason to believe might have derived their first ideas from some of my pupils, inasmuch as several of them, about the years 1827 and 1828, studied in the schools of Paris, and one of them in particular, Dr. Horner, founded his inaugural thesis, in Edinburgh, upon the subject of the ovum, and, with slight modifications, adopted my doctrine.

Anglus has farther said, "Dr. Power may be permitted to enjoy all the glory of having propounded a theory, whilst it is remembered, at the same time, that of that theory he did not furnish one satisfactory proof:" he then adds, that M. Gendrin "both propounded and proved the truth of the theory."

Now, sir, holding myself, as respects any controversy on the present subject, as standing perfectly isolated and alone, it is scarcely requisite for me to say that I have no wish to detract, in the slightest degree, from the merits of M. Gendrin and his associates; nor will I assert that their inspirations have not been derived from their own genuine sources; but this much I will say, and I think it must be admitted, that the theory they have "propounded" had been *fully* propounded before; and I will add, that I cannot allow the relative quantity of merit which Anglus obviously appears desirous to attach to them and to myself respectively;

namely, that mine is of a minor, theirs of a major kind.

I beg to inquire whether it could be held as a *minor merit* to have detected, through the darkness and ignorance of ages, correct glimpses of an important fact, or of an unknown world? To which, in the opinion of posterity, has the highest meed of honour been attributed, to Columbus or Americus Vespatius? The former, by his reasoning powers, and the inferences deduced from analogy, propounded the existence of a new world, the confines of which it was his fate only to touch upon; the other, availing himself of these views and experience, actually succeeded in reaching that world: does any one contend that he was justified in having made it his own? I have not the vanity to presume that the parallel is perfect; but I do contend that, in consequence of a severe study of the various *facts* which my opportunities and the state of medical science at the time permitted, I not only propounded a theory, but went far beyond its confines, and declared virtually a variety of facts connected with it which subsequent physiologists have done little more than confirm; nay, I have gone still farther, and have advanced additional views which are probably equally true, and which others appear not yet to have touched upon; I allude to the connection between menstruation and gestation, and the peculiar manner in which, in the human subject, the impregnated ovum becomes attached to the uterus by the intervention of the decidua membrane.

I regret to feel myself compelled to such egotisms; they are foreign to my nature; and I defy the world to shew that I have ever assumed to myself any undue proportion of "glory" with respect to what I have done: this I cannot better prove than by the following extract from my notes of the concluding part of the lecture I was in the habit of delivering to my pupils on the subject, and which, from his observations respecting "publicity by lecture," I infer Anglus will not consider otherwise than legitimate.

"It would be presumptuous in me to imagine that so humble an individual as myself had succeeded in explaining satisfactorily the nature of a function which has, for at least two thousand years, in vain excited the attention of the greatest philosophers and physiologists. All I pretend to is, that I may have offered a theory which has reason and probability in its favour. You may, perhaps, regard it as unworthy of your notice, or you may receive it as of at least equal value with its predecessors, or possibly you may admit it with myself as affording a more probable explanation than any previous hypothesis has given. In any of these cases I have one favour to solicit; namely, that you will bestow upon it an attentive examination, and that, should the result be in its favour, you will not hesitate to maintain it with that ardour and pertinacity which science ought ever to expect from its friends and cultivators. Farther, should you be induced to pursue its investigation, I hesitate not to say an opportunity offers of distinguishing yourselves amongst the improvers of medical science."

I might extend my remarks much farther, but that I am unwilling to trespass too much on your valuable pages; I will therefore conclude with requesting those who may feel induced to take an interest in the subject to examine attentively the full meanings and contexts of the opinions advanced in my Essay, so as to avoid the errors which partial extracts are liable to engender; and particularly to take into account the state of medical science at the period when it was published, its nomenclature and terminology; important misrepresentations having been propagated in these respects*. Should they then think proper to regard my views as mere "conjecture" and "hypothesis," and the arguments by which they are supported as unwarranted "statements" for which I had "no grounds," I must be content to bow to the decision, however inconsistent I may deem it with the dictates of reason and justice, and the previous usages of philosophical research.

I have the honour to be, sir,
Your obedient servant,
JOHN POWER.

9, Great Queen Street, Westminster,
May 7th, 1844.

[We have the greatest pleasure in giving insertion to the preceding ex-

* Vide the observations contained in the Cyclopædia of Practical Medicine, Vol. iii. p. 227, respecting the term ovum, and contrast them with the descriptions in my Essay on the Female Economy, pp. 11, 13, 14, and 15.

cellent letter from Dr. Power. We have even felt it a duty to him, and through the respect in which we hold originality, to refer to his work entitled Essays on the Female Economy, published in the year 1821; and find it equally ingenious and creditable to him as a physiologist as it is learnedly and candidly written. Had there been less of speculative ingenuity—a quality, however, which we would not be held for a moment as undervaluing, for indeed we believe it to be one of the truest attributes of genius, which, out of known facts and foregone conclusions, sees intuitively, as it were, facts and inferences that are yet in the womb of time—we say, had there been less of speculative ingenuity in Dr. Power's work, his views would probably have attracted more attention at the time, and his merits in the interesting subject of which he treats have been now unquestioned. Dr. Power's very comprehensive generalizations, however, led him to sum up his views in a certain general proposition, which is always quoted in some sort against him, and if not with the purpose of obscuring his views in regard to the cause of menstruation, at least with such an effect. The general proposition alluded to is the following:—"The efficient cause of menstruation may be defined 'an imperfect or disappointed action of the uterus in the formation of the membrana decidua, which is requisite for its connection with the impregnated ovum,'" p. 28. But when we go back, and find our ingenious author insisting (p. 13) that in every female arrived at puberty the generative process is proceeding in a regular and uniform series of progressive actions, to produce an ovum, and to prepare for the removal of that ovum; that, precisely as in the hen or pullet (pp. 14 and 15), "ova are also found in the enlarged ovaria of the human adult female, in different states of perfection," and "that in women who have never been pregnant, corpora lutea, and cavities which have been supposed previously to contain ova, have been detected;" "that menstruation is a farther link in the chain of these progressive actions;" "that it is not only probable, but certain, that these actions are not confined to the ovaria, and the consequent production of ova, but that the whole female economy sympathises in the work that is there going on," "that *the uterus in particular enlarges, its vascular action increases, and the phenomenon of menstruation succeeds;*" we cannot hesitate to do Dr. Power the justice to say that he left little for any one who came after him to accomplish. He may be said to have demonstrated the necessity of the thing, which has since been shewn as in a mirror. See how he carries out the idea above alluded to in the very next page: "In proportion as the ovum acquires a state of maturity in the ovarium, the uterus undergoes a corresponding preparation for its reception. Its vascular action is increased in a degree tending to a state of inflammation, and it wants but the additional stimulus of impregnation to determine it to the production of the deciduous secretion so requisite for the proper connection with the ovum; if, however, the stimulus of impregnation is denied, this increased action is not carried to a sufficient height to produce properly that effect; nevertheless, it is sufficient to give rise to the effusion of a fluid, *which fluid is the menstrual fluid* (p. 19). Here we see a train of thought which connected the fact of menstruation with "a disappointed action of the uterus in the formation of a deciduous membrane:" this disappointed action, however, is evidently the last link in the chain of effects which had the production and arrival at maturity of an ovarian ovum as their efficient cause.

We beg to refer Dr. Power to a short address "To our Friends," in our last number but one, for solace in the neglect he has experienced—in the attempts that have been made either to detract from, or to strip him of, the honour that is fairly his due. We have farther pleasure in informing him that the same messenger who brought us his own letter, brought us a powerful communication from Glasgow—we observe each other's movements now at the antipodes,—in which Justice herself fairly throws away the scabbard in his favour; and which worthy letter of "Justitia" would have been published, had not Dr. Power's own appeared to us preferable, and afforded us the agreeable occasion of making the above comment on his old and very original work.—Ed. Gaz.]

CASES OF DIABETES MELLITUS:

WITH PRECISE OBSERVATIONS CONCERNING THE INFLUENCE OF ANIMAL DIET UPON THE URINE.

By John Percy, M.D. Edin.
Physician to Queen's Hospital, and Professor of Organic Chemistry, Queen's College, Birmingham.

(*For the London Medical Gazette.*)

[Continued from page 154.]

Case II.—At the latter end of November 1843, in conjunction with my friend Mr. Wickenden, I attended Mr. ——, a gentleman of middle age, of high stature, of moderately robust frame, and of sedentary occupation. He was affected with confirmed diabetes mellitus. On careful inquiry, it was impossible to ascertain the period when the disease first appeared. The symptom which principally attracted the attention of the patient and his friends was emaciation: he had lost 40 lbs. in weight. He had, however, observed that he passed urine in larger quantity and more frequently than natural, and had complained of thirst. He felt quite well, with the exception of being occasionally irritable without assignable cause. Having been under the judicious treatment of Mr. W. for some time before I saw him, the thirst had been relieved, the urine reduced in quantity as well as in specific gravity (which at first amounted to 1047), and the condition of the skin improved. His general health had always been good, and he had never had any serious illness. His appetite was natural; tongue clean, but not preternaturally red; no sponginess of the gums; skin warm and moist; pulse regular, of tolerable strength; no phymosis or irritation about the urethra; bowels regular; no uneasy sensation at the epigastrium either before or after taking food; no peculiar taste. No hereditary predisposition. He had never been exposed to extreme alternations of temperature. The warm bath occasionally, and a diet principally of animal matter, had been prescribed; but bread and potatoe were allowed in reduced proportion. We determined to recommend an exclusively animal diet, forbidding all amylaceous matter, and prescribed sulphate of iron, with a small quantity of opium. The patient immediately concurred in our recommendation, and has rigidly restricted himself to the diet enjoined. As he had always been accustomed to generous living, we allowed a small quantity of brandy and water daily. We have since occasionally prescribed other medicines, but not such as can be supposed in any material degree to influence the disease. The patient has continued to enjoy comfortable health, and to pursue without interruption his wonted avocation. He can take exercise without fatigue, even to the extent of ten or eleven miles occasionally. His muscular tissue is tolerably firm; but it must not be omitted that his weight has not increased: it has occasionally varied a little, but has not at present suffered further and permanent decrease; and, what is remarkable, the patient has never, with one or two exceptions, been disturbed in the night with calls to pass urine.

Chemical Observations respecting the Urine.

Dec. 1st.—Urine received last night. Colour straw; odour urinous; reddens litmus; copious deposit of pale flesh-red colour, consisting of urate of ammonia mixed with lozenge-shaped crystals of uric acid. These crystals were immediately detected under the microscope after dissolving out the urate of ammonia by warm water and removing the solution by a pipette. Specific gravity 1036. Reddish brown precipitate by Trommer's copper test. To some of this urine I added an equal volume of nitric acid; on the following morning no crystallization of nitrate of urea had occurred. The urine, reduced by evaporation to the consistence of syrup, evolved a strong urinous odour, had a saline, not sweet, taste, and became, by the addition of nitric acid, a crystalline magma. It fermented readily with yeast, in a tube over mercury. The quantity of urine passed daily, so far as I could ascertain, was not much more than in health, not exceeding four pints.

6th.—Colour pale brown. Perfectly transparent, with the exception of the usual delicate mucous cloud at the bottom; but, after standing two days, it had deposited pale reddish brown urate of ammonia mixed with small dark coloured crystals of uric acid.

Odour urinous; reddens litmus; specific gravity, 1021.

Put, to ferment, 1000·0 grains mixed with yeast in a two-necked bottle, connected, as before described, with Liebig's potass apparatus,—

Dec. 8, weighed . . .	605·40
Dec. 6, weighed . . .	605·39
	0·01

No sugar, therefore, was present. In order to verify the result, I introduced f ℥ss. of the same urine, mixed with a minute portion of yeast, into a graduated receiver over mercury. Three days afterwards not the smallest evolution of gas had occurred.

The result was further confirmed by the application of Trommer's test, which revealed not the smallest trace of sugar.

Analysis of 1000 *grains.*

Solid matter	47·78
Water	952·22
Urea	21·92
Uric acid and indeterminate organic matter	20·14
Chlorides	0·86
Sulphate, carbonate, and soluble phosphate	3·94
Earthy phosphates . . .	0·92
	1000·00

The weight of solid matter was ascertained by drying in vacuo over sulphuric acid during ten days. By evaporation over the steam-bath, a brown mass of acicular crystals was obtained.

11th. — Urine passed last night. Colour of ordinary urine. Odour strongly urinous. At first clear, without deposit; but, on standing, flocculent urate of ammonia was separated. Specific gravity, 1019. Quantity of liquid drunk during last twenty-four hours, 66 fluid ounces; quantity of urine voided during the same period, 64 fluid ounces.

16th.—Urine passed this evening. Has taken gluten bread, obtained from Mr. Morson's, London, during the last few days. Colour of ordinary urine. Specific gravity, 1020. No evolution of gas, by admixture with yeast, after standing in a warm place three days.

23d.—Urine passed this morning. Has taken daily, during the last week, a small quantity of common bread and potatoe. Colour, pale brown. At first without sediment, but, after standing a day or two, deposited pale brown urate of ammonia. Specific gravity, 1039; temp. 62° Fah.

1000 parts contained 39·1 of sugar.

27th. — Urine received yesterday. The patient having, since the last examination, been again restricted to an exclusively animal diet, except in so far as milk may be regarded as containing a principle, lactine, analogous to vegetable matter. Pale brown flocculent deposit of urate of ammonia. Specific gravity, 1025; temp. 58° Fah. No trace of sugar detected by the addition of yeast in the usual manner.

Jan. 4th (1844). — Has been again taking gluten bread. Colour of ordinary urine. Pale red deposit of urate of ammonia. Specific gravity, 1038; temp. 53° Fah. Fermented readily with yeast over mercury.

15th.—Urine received to-day. Straw coloured. Mucous cloud as usual. Specific gravity, 1029; temp. 52° Fah. Fermented readily with yeast.

Liquid drunk in twenty-four hours, 64 ounces; urine voided during the same period, 48 ounces.

Feb. 6th.—Urine received yesterday. Pale. Deposit of uric acid and urate of ammonia. Specific gravity 1035; temp. 58° Fah.

1000 parts contained 23·2 of sugar.

12th.—Urine received this morning. Flocculent deposit of uric acid and urate of ammonia. Specific gravity, 1035; temp. 53° Fah.

Analysis of 1000 *grains.*

Solid matter	81·70
Water	918·30
Urea	30·32
Uric acid	0·26
Sugar	17·15
Indeterminate organic matter .	23·77
Chlorine; carbonic, phosphoric (copious), and sulphuric acids; potass and soda	8·82
Earthy phosphate . . .	1·38
Silica, trace of.	
	1000·00

The weight of solid matter was determined by evaporation in vacuo over sulphuric acid during twelve days. The urea was separated from urine which had been fermented. The weight of sugar was deduced, as usual, from the volume of carbonic acid liberated from 100 grains of urine fermented over mercury. The incineration was conducted with great facility, and a

perfectly white ash was obtained. The incineration of the fixed residuum of ordinary diabetic urine is an extremely troublesome process.

Feb. 20th.—Urine received yesterday; the patient still continuing restricted to the same animal diet. Pale brown; strongly urinous smell; deposit of urate of ammonia; specific gravity, 1033; temp. 56° Fah.

Quantity of liquid drunk in twenty-four hours, 50 fluid ounces; quantity of urine passed, 60 fluid ounces.

26th.—Characters as before. Specific gravity, 1034; temp. 57° Fah.

March 9th.—Pale brown; specific gravity, 1034; deposit of uric acid and urate of ammonia.

Quantity of liquid drunk in twenty-four hours, 48 fluid ounces; quantity of urine passed, 52 fluid ounces.

1000 parts contained, of sugar, 30·45
Ditto ditto of urea, 27·92

Case III.—Feb. —. In conjunction with Mr. T. Chavasse, I visited Mr. ——, a fine portly looking man, of ruddy complexion. He was about 60 years of age, and must have weighed, when in health, not less than 16 or 17 stones. With the exception of slight debility, he feels as well as ever. His countenance is cheerful, and not at all indicative of disease. He has lost flesh considerably; yet he is still corpulent. He has no accurate knowledge of the extent to which he is reduced, as he has never been weighed in his life. He thinks he remarked thirst and incipient loss of flesh two years ago; at that time, also, he rose frequently in the night to pass urine, but this symptom might have been occasioned by a stricture with which he is affected. His appetite was at first increased, but of late has been impaired. Had never been exposed to sudden alternations of temperature. No hereditary predisposition. A nitric acid mixture had been prescribed for him, but no material alteration in his diet had been enjoined, bread, potatoe, and porter being freely allowed.

Present symptoms.—Thirst; dryness of mouth and fauces, tongue white and coated; gums spongy and receding from the teeth; appetite not increased; no perspiration, not even in the axillæ, though in health he was accustomed to perspire freely; skin dry, yet not particularly harsh; slight dimness of vision; no numbness in any part; passes about seven or eight quarts of clear urine in twenty-four hours; bowels frequently confined; stools lighter coloured than natural; pulse of moderate strength, yet somewhat languid; cannot walk as formerly without fatigue; occasional pain across the loins; has always had occasional cough; is not at all fretful, his countenance being expressive of good humour.

We recommended that his allowance of bread should be reduced to eight ounces daily, and that it should be made with flour from which a portion of the starch had been washed out. No other vegetable matter. Beef or mutton with fat, and beef-tea; oysters; custard puddings, made of egg and milk, without flour; new milk; fish; and any other convenient animal food. No malt liquor, but only weak brandy and water occasionally, in consideration of his previous habit of living.

℞ Sulphatis Ferri, gr. ij.; Extr. Rhei, Extr. Gentianæ, aa gr. jss. M. ft. pilula. Capiat j. talem ter die.

℞ Ammon. Carb. ʒj.; Sp. Lavand. Co. fʒij.; M. Camphoræ, fʒviij. M. ft. mist. Capiat fʒj. ter indies.

Examination of the urine.—Colour, pale straw. Clear, with the exception of the usual mucous cloud. Specific gravity, 1039°; temp. 50° Fah.

Analysis of 1000 *grains.*

Solid matter	101·10
Water	898·90
Urea	2·39
Sugar	79·10
Uric acid and indeterminate organic matter . . .	16·74
Chlorine; carbonic, sulphuric, and phosphoric acids; potass and soda	2.78
Earthy phosphate . . .	0·09
	1000·00

100·0 grains of this urine, dried in vacuo over sulphuric acid during 14 days, left 10·110 of pale brown residue. The urea was determined in the usual manner from 500·0 grains of the fermented urine. As the patient passed about six times more urine than natural in 24 hours (estimating the natural quantity at 42 ounces), we may expect to find only one-sixth of the respective quantities of normal ingredients. Ac-

cordingly, by multiplying the urea and saline matter by 6, we have,—

Urea	14·34
Soluble salts	16·68
Earthy phosphate . . .	0·54

Hence we perceive that the amount of these ingredients excreted daily was pretty nearly the same as in health.

March 1st.—Thirst diminished. Urine reduced to 7 or 8 pints daily. Recommended a further decrease in the bread to 6 ounces, urgently persuading the patient not to deviate from the prescribed kind of diet.

4th.—Urine received yesterday. Clear. A small quantity of red crystalline deposit of uric acid. Not so pale as before. Specific gravity, 1038; temp. 58° Fah.

8th.—Improvement continues. Urine reduced in quantity. Pale brown. Odour urinous. Specific gravity, 1031; temp. 57° Fah. Acid reaction. A small quantity of crystalline deposit of uric acid.

1000 grains yielded, of sugar, 49·7
Ditto ditto of urea, 9·76

I repeat that any conclusions which may be drawn from the preceding cases will be reserved for a future communication.*

[To be continued.]

REPORT
ON THE
ROYAL MATERNITY CHARITY.

By F. H. Ramsbotham, M.D.

(For the London Medical Gazette.)

[Continued from p. 197.]

During the year 1834, there were delivered, in the Eastern District of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham,—

2447 *women—Of which cases*

26 were twins—about 1 in every 94 cases: of these, in 13 both heads presented; in 9 the head and breech or inferior extremities; in 2 one presented with the head, the other transversely; in 1 both with the breech or inferior extremities; and in 1 the breech and shoulder. In 7 of these cases the children were both boys; in 8 both girls; and in 11 of different sexes.

1285 were males.
1188 were females.

2408 were presentations of some part of the head, of which 17 were face presentations—about 1 in every 145½ births; and 3 were presentations of the ear—about 1 in every 824 births.

57 were presentations of the breech, or some part of the lower extremities—about 1 in every 43½ births. Of these 12 were twins.

8 were transverse presentations—about 1 in every 309 births. 3 of these were the second of twins; 2 were expelled by "the spontaneous evolution," or rather doubled, between six and seven months, putrid; in 1 case the uterus ruptured itself. Only one of these children was born alive.

In 1 the placenta was implanted over the os uteri; the child was delivered by "turning;" it was dead; the woman recovered.

5 were complicated with alarming accidental hæmorrhage, *not* the consequence of placental presentation—1 in about every 489½ cases; 2 were premature. In all these cases the women were delivered naturally, the hæmorrhage ceasing, or being much diminished, after the membranes were ruptured; but in one the uterus relaxed after the expulsion of the placenta, and the woman died in less than an hour. Only one of these children was born alive, and that was premature.

In 10 the placenta was retained within the uterus, either by atony or irregular contraction of the uterine fibres, or by morbid adhesion between the uterine and placental surfaces, requiring the introduction of the hand for its removal—about 1 in every 245 cases. All the women did well; with all there was considerable hæmorrhage.

6 were complicated with alarming hæmorrhage, after the natural expulsion of the placenta—about 1 in every 412 cases. One of these women died immediately after a very rapid labour, before the midwife could arrive; another, who had been ill with fever during the latter part of her pregnancy, was delivered of a dead child; she seemed to be going on well till the eighth day, when she was suddenly seized with a violent attack of hæmorrhage, and never rallied.

4 were delivered by the forceps—1 in every 618¼ cases. In one case, where the long forceps was used, the woman

* In p. 152, line 4, *for* lbs. *read* pints; line 10, *for* an, *read* our; line 13, *for* chlorinic, *read* chlorine; p. 153, line 27, *for* grs. *read* ozs.

had a narrow pelvis at the brim. All the children were extracted alive, and all the women did well.

2 were complicated with puerperal convulsions—one in every 1236½ cases. In one case the attack occurred a month before delivery; the woman had a succession of fits rapidly; she was relieved by bleeding and purging; the child was born alive, and she did well. The other happened to the patient for whom I induced premature labour in January 1832, in consequence of a malignant tumor situated on the right buttock, which was afterwards removed in the London Hospital, as stated in a previous report. She had enjoyed tolerably good health since, but had very recently become a widow. Soon after her labour she complained of pain in the head, which did not give way to the means employed. On the ninth day she was attacked with violent convulsions; bleeding and purging put a stop to the more alarming symptoms; but a state of coma, drowsiness, and semi-consciousness, continued, and, in spite of all the efforts used, she died in ten days from the commencement of the fits. An inspection could not be obtained.

In 2, premature labour was induced in consequence of a contracted pelvis—one in every 1236½ cases. In one of these the ergot alone was used; the head, funis, and hand, presented, and the child was born dead. In the other case the membranes were punctured, and this child also was born dead. Both women recovered perfectly.

10 women died within the puerperal month—about one in every 245 cases. Seven only of these, however, could be considered the consequence of labour, for two died of epidemic cholera, and one of dropsy—being one in about every 349½ cases.

2408 children were born living.

79 were born still, being about one in every 31⅓ births.

Of the Deaths—

3 occurred from hæmorrhage; one immediately after labour, before the midwife arrived; one in an hour after the expulsion of the placenta—there had been flooding before the birth; and one on the eighth day after delivery, of a sudden and copious gush of blood.

1 from convulsions on the nineteenth day after delivery.

1 the day after delivery under a shoulder presentation; the uterus ruptured itself by the violence of its action.

1 from hysteritis on the 8th day after delivery, the labour having been lingering.

1 at the end of the third week, from diarrhœa; this was owing to her own imprudence in regard to exposure and diet: at the end of a week from delivery she was well, and began to occupy herself in her domestic duties.

2 from Asiatic cholera—one woman died six hours after labour, having been the subject of the disease only 18 hours. Her death occurred on a Thursday, about the middle of September: on the Monday before, her husband was seized with the complaint, and died the next day; his corpse was in the same room with her when she was delivered; the infant died on the Friday, and another of her children on the Saturday following her death. The other woman died on the 8th day after labour.

1 from universal dropsy a few days after delivery.

Of the Still-born children—

32 were premature.

4 were putrid at full time or nearly so.

14 were breech presentations at full time or nearly so.

7 were transverse presentations.

1 was under a placental presentation.

4 were under accidental hæmorrhage.

1 was after a serious accident had happened to the mother.

2 were under premature labour voluntarily induced; with one of these the funis prolapsed.

With 4 the funis prolapsed by the side of the head at full time.

1 was an acephalous fœtus.

9 were at full time, the head presenting, not putrid, nor delivered by art; some of these were lingering labours, and one unusually so.

[To be continued.]

RECORD OF CASES.

By Thomas Mayo, M.D. F.R.S.
Physician to the Infirmary of St. Marylebone.

(For the Medical Gazette.)

[Continued from p. 147.]

Pseudo-Rubeola.

The supposition that measles sometimes occur more than once to the same person, perhaps owes its existence to the

occasional occurrence of a rubeoloid exanthema, mistaken for measles.

It is no doubt expedient that this mistake should be avoided, but besides this reason for paying some attention to pseudo-rubeola, it is probable that it has a character of its own, and a bearing upon disease, which it is inexpedient to neglect. Though such eruptions may not be measles, they will often be found in company with severe disorders of other kinds, and possibly may indicate the procedure by which the cure of the concomitant disorder may be effected.

In two remarkable cases at the Middlesex Hospital, I witnessed a concomitancy, or rather a sequence, of this kind. In each, after two days of pyrexia, rubeola apparently developed itself very fully, but without coryza. In both, after lasting about 36 hours, it abruptly disappeared. Small vesicles were then observed extensively grouped, and these turned out to be a varioloid eruption, which in each case ran its course very fully; the patients being young, and having on their arms the evidence of vaccination. In the second of these cases, I witnessed, on careful inspection, the small vesicles apparent, before the rubeolous eruption had disappeared.

On the 1st of October, 1841, Stephen Lloyd, a fine, well-grown boy, aged 3 years, came into the Marylebone Infirmary with some feverish symptoms. On the 2nd, measles came out, and ran a mild course, in regard to which I have only noted that there was less than the usual coryza. A powder of rhubarb gr. vij., calomel gr. j., was given at first, and the mistura antimonialis was continued throughout it.

12th.—Pertussis now occured, unmarked by any symptoms of severity. It was treated with the Pil. Saponis c. Opio, in small doses, the Pulv. Conii Co. gr. iv.* bisquotidie, and mild aperients.

16th.—The pulse being to-day rather sharp, Hyd. Chlorid. gr. j., Pulv. antimonial. gr. iij. was ordered o. n. and continued to the 23d.

21st.—The pulse was softened; but ronchus and deficient vesicular penetration were observed by me, posteriorly, on the lower lobes of the right lung; and this state continued nearly unaltered through the whole case.

Applicentur Hirud. iij.; Sumantur Mistura Tragacanth. ʒij.; Vin. Ipecac. ℥v. 6tis.

23d.—Hydrarg. Chlorid. gr. ss.; Pulv. Ipecac. Co. gr. ij. 8vis.

24th.—Repetantur Hirudines iv.

The above powders were discontinued, as they dried the tongue.

Mistura Antimon. ʒiij. 6tis.

This mixture was continued, more or less in quantity, to the end of the case, so as to produce frequent vomiting.

28th.—Repetantur Hirudines et post Hirud. applicetur Emp. Lyttæ, inter scapulas.

30th.—Hydrarg. Chlorid. gr. ij.; Fol. Conii, gr. j. 8vis.,

to November 3d, when, strange to say, in one so young, salivation occurred.

On the above applications of leeches, the patient bled freely, always with marked relief of dyspnœa, which existed in no very high degree. The sputa, for throughout he spat freely, were not tenacious; they were muco-purulent, mixed with a little blood. The bowels were kept gently open by Oleum Ricini.

31st.—He was this day much better. Sputa to-day not streaked; more respiratory murmur in the affected portion of lung, but some gurgling. This improvement had, indeed, commenced with the salivation. It was observable that the heat of the posterior surface of the thorax, which had been disagreeably pungent to the touch, had much diminished.

Nov. 2.—The improvement had continued up to to-day; but he coughs much, though he rarely hoops. To-day he looks distressed, and dyspnœa has returned. Let him take enough Mist. Antimonial. to vomit him. The salivation is still existent, though less.

3d.—*This day an eruption of a rubeolous character has returned over his arms and chest;* it lasted twenty-four hours. His breathing is noisy; streaks of blood again in the sputa.

Emplast. Lyttæ Epigastrio.

Up to the 7th, he continued much the same. The bowels were kept open by Ol. Ricini; and Morphiæ Muriat. gr. $\frac{1}{6}$, was given with some slight relief of dyspnœa, bis quotidie, for two days.

* Fol. Conii, gr. j., Pulv. antimonial. gr. j. Sodæ Sesquiscarbon. gr. ij.

On the night of the 7th his teeth grated much; and through the 8th very little urine passed. He no longer noticed or answered questions; disposition to orthopnœa; sputa easy, no blood in them. He screams much; his hands are contracted, and thumbs bent into the palms. These symptoms of cerebral disturbance continuing, he died on the morning of the 10th. From the 2d of November, until the head symptoms presented themselves, that is, up to the 7th, very strong flushes took place on his forehead and cheeks.

The stethoscopic phenomena of this case were observed by me only so far as I wanted immediate indications of practice, from my unwillingness to disturb the little patient.

Post-mortem examination. — Brain and membranes in a normal state, or slightly injected. Left lung normal, except that there were *some* miliary or granular deposits in the upper part. Right lung remarkable in being divided more vertically than usual, and into two lobes, which adhered throughout. In the middle and lower portion of that lung, a large mass of tubercle, very partially softened; posteriorly, one small cavity containing pus; the substance of the lung around the tubercular mass *engouè*. Mesenteric glands tuberculated, and much enlarged. The head symptoms in this case were plainly of thoracic origin.

Emma Shuttleworth, aged 4 years, came into the Infirmary, Nov. 10, 1841, with enlarged submaxillary glands. On the 12th, an eruption, having all the characteristics of measles, coryza included, took place, but lasted only twenty-four hours, though endeavours were made by sinapisms to recal it. Her convalescence was only marked by fretfulness; there was neither cough nor dyspnœa: but on the 23d my attention was called to her by her feverish appearance, and my being informed that she would take no food. Her skin was hot; belly flatulently distended and tender; tongue smooth down the middle, and dryish; bowels open; urine sufficient; pulse quick. From this point of time to the termination of her illness, the thorax being often examined gave no morbid appearance, except seme resonance of voice, and occasionally *imperfect* vesicular penetration, which at other times was not noticed. Her fretfulness, combined with the above symptoms, drew my attention at this time to the abdomen; for there was no comatose tendency, no screaming, no complaint of head when questioned. About two days before her death, which occurred on the 28th, she was observed to grind her teeth; her cheeks were strongly flushed, and her tongue had become thickly coated. The evacuations at the last were green and loose.

Before the 23d, when pyrexia and tenderness of the abdomen engaged my attention, I had given some doses of Hydrarg. c. Cretâ with Dover's powder, with Mistura Cretæ Co. for looseness of bowels. On the 23d, two leeches, and afterwards an emplast. lyttæ, were applied to the abdomen, which materially lessened its tenderness and tenseness, but left pyrexia and quick short breathing unabated. The remainder of the treatment was Hyd. Chlorid. gr. j. bis vel ter quotidie. I suspect that very little food was taken by this patient throughout her illness. She was, so said the nurse, extremely obstinate.

Post-mortem, 24 hours after death.

Abdomen.—No other morbid point, than flatulent distension, some enlargement, not of an inflammatory character, of mesenteric glands, and some softening and enlargement of kidneys.

Thorax. — Slight engorgement of lungs partially observable.

Head.—Fluid effused between arachnoid and pia mater. The latter membranes very highly injected with blood, in some parts amounting to ecchymosis. Brain firm, and exhibiting many bloody points; more than the normal quantity of fluid in ventricles.

The common feature in the above four cases is the imperfect rubeolous eruption occurring in each of them, and in the third case exhibiting itself more than twenty days after the termination of normal rubeola. In two of these cases the morbid action, of which the rubeolous eruption formed a part, was fatal. In the other two the occurrence of varioloid disease seemed, if I may speak hypothetically, to give the system adequate relief, and the patients did well.

[To be continued.]

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Caloric; its Mechanical, Chemical, and Vital Agencies in the Phenomena of Nature. By SAMUEL L. METCALFE, M.D. of Pensylvania University. 2 vols. pp. xix. and 1100. Pickering.

WE beg to refer to a late number for a sort of Lloyd's-list classification of books, in order that our readers may appreciate to the full the high estimate we are disposed to put upon the work the title of which is given above. It is at once an original composition, and a most comprehensive and enlightened review of the opinions that have been entertained, in ancient and modern times, on many of the most interesting and momentous problems of general physics and animal physiology. It bears the unquestionable stamp of genius, and carries with it, at the same time, evidence of learning various and extensive, and of such laborious research as can only be successfully achieved by minds of the noblest order in pursuit of sacred truth. And truly, we make bold to say, that we have never met with an effort so sustained, and, we add with confidence, so successfully made, to raise the veil from the shrouded statue of the goddess. The attendant priests of old would have trembled lest the face was about to be uncovered wholly, and would probably have tried to arrest what they would have called the sacrilegious hand of the author of this work. We live in happier times, and if Sais were now, and we at Sais, we know that we should meet the encouraging smile of the divinity, and not death, for venturing, with all reverence, to lift a corner of her veil.

So much by way of showing to our readers the general impression which the perusal of this excellent book of Dr. Metcalfe has made upon our mind. Let us take a brief survey of some of the matters treated of in its pages. The work is divided into two volumes, the division naturally indicated by the two orders of phenomena discussed, viz. physical and vital phenomena, and we shall follow the same order in our notice of the book, restricting ourselves, at this time, to the first volume, but promising to ourselves the pleasure of returning to the second volume at an early date.

To the general reader the title of this book will hold out little that is attractive; the natural philosopher and chemist, however, are aware that the subject of caloric is one that is altogether paramount, and that discussing it in its varied agencies, we are, in fact, passing in review the entire domain of nature and of art. The subject, therefore, is one of intense interest in itself. The masterly manner in which it is handled by Dr. Metcalfe invests it with a kind of ideal attractiveness; and as we have but just discovered that history, to be true and improving, may be very different from the barren chronicle of events in which our forefathers believed its essence to consist, so have we here an instance of the delightful manner in which science may have letters and antiquities, poetry and philosophy, brought to her aid, and how, instead of having her presented to us as a lifeless skeleton, hideous in its nakedness, we may have a form instinct with life and motion, and clothed in loveliness, to look upon.

Despite of the vast importance which, by common consent, is ascribed to heat in the phenomena of the universe, the science of caloric was yet to create. What was estimated as this science consisted of a comparatively small number of unconnected facts, which scarcely found their application beyond the confines of the laboratory; it was left for the gifted mind whose work lies open before us, to make an extensive generalization of all the facts and phenomena known, and to demonstrate caloric as the prime mover in the universe—as the agent employed by God alike to convert into vapour, and to move in space the drop of dew, and to roll the planets in their orbits millions, billions of miles, from the source of power, recipients of life and conscious enjoyment from his hand. And then the whole piecemeal superstructure of preceding philosophers wanted the essential circumstance of substantial foundation. Up to the present moment it has still been a question whether caloric be an exceedingly subtile and active essence, as maintained by all the enlightened nations of antiquity, or consists in mere motion or vibration among the particles of

ponderable matter, as supposed by many of the most distinguished philosophers of modern times. Dr. Metcalfe, perceiving the necessity of settling this question, and of making the nature of caloric the cardinal point of his inquiries, sets out by showing that it is a material agent, and consists not by any means in mere motion or vibration among the particles of ponderable matter.—It may be added to, and subtracted from, other bodies, and even measured with mathematical precision by the thermometer. It augments the volume of bodies, which are again reduced in size by its abstraction. It modifies to infinity the forms, properties, and states of all other bodies. It passes through the most perfect vacuum that can be made, still producing all its characteristic effects upon the thermometer, &c. It exerts mechanical and chemical forces that seem irresistible—as in the eruptions of volcanos, the explosion of gunpowder, &c. It affects the nervous system in a perfectly determinate way; grateful in moderation, it produces intense pain and disorganization of the animal tissues in excess. "But," says our author, "if caloric were a mere property or quality, how could it be taken from one body and added to another? And if it augment the volume of other bodies, must it not itself have volume, occupy space, and therefore be material?" We will own that to us it does seem absurd to stake the material existence of anything upon the mere possession of appreciable ponderability; volume and condition are surely as good tests of entity of material existence as weight. Wherefore should we then say that that which, added in the quantity indicated by 980 degrees of our ordinary thermometric scale to a *cubic inch* of boiling water, converts it into a *cubic foot* of invisible vapour, or which, subtracted to a still greater amount from the vapour, turns it into a solid—a mass of ice—had not an actual, a material existence? To say that *motion* can have any such effects is absurd; for motion is obviously not an agent, a cause, but an effect, and implies a mover. Neither have we any difficulty in conceiving caloric as existing distinct from other bodies: it passes through the most complete vacuum of the air-pump that can be procured, undiminished in quantity, unaltered in quality; and it traverses the vast, and, in regard to air, much more perfect vacua of planetary space, to impress life upon the orbs it encounters, in accordance with fixed laws which do not differ from those that have been assigned to gravitation — it diminishes inversely as the squares of the distance.

Our author's next object is to show that caloric is a self-active principle, which has not only the power of motion within itself, but that of giving motion to all other bodies. That the particles of caloric are idio-repulsive is universally admitted; that it has the faculty of engendering motion among the particles of all other matter, appears from every one of the phenomena with which we are most familiarly acquainted. Witness its effects upon the particles of water, now coherent and constituting a solid, now gliding easily over one another and forming a liquid, and next flying apart in the shape of an elastic vapour, which gains power with every additional degree of caloric until it upheaves continents and makes the solid crust of the globe to tremble. All changes and transformations of matter being immediate effects of motion among its particles, caloric the efficient cause of motion everywhere present, in the pores of bodies, as in the stellary spaces, what do we require more to conclude that caloric has all the attributes of a *vera causa*—the power of moving itself, and of generating motion in other bodies—that we have attained to a knowledge of the grand means which the Almighty has used in fashioning, and which he still uses in upholding, the fair fabric of the universe? In the total absence of caloric, the particles of ponderable matter would have no power either of attraction or repulsion, no power of motion—nature would then be truly dead; whence the conclusion that the activity or moving power of all bodies is directly in proportion to the quantity of caloric around their particles, and, by an extension of the same law, that all molecular motion, whether centrifugal or centripetal, is referrible to the property inherent in caloric of repelling its own particles, and of attracting the particles of ponderable matter with forces that vary inversely as the squares of the distance. Here, then, we have the physist, or natural philosopher, upon a height such as he has never attained

before, and with a positive knowledge not only of the things acted on, but of the agents, calculating the reciprocal influence of the masses which compose the universe, with the same assurance that the chemist now calculates the combining proportions and affinities of the ultimate elements of matter.

We beg particularly to call the attention of our readers to those chapters in which our author demonstrates, as we think in a manner not to be gainsaid, that caloric is no less the cause of cohesion and chemical affinity than of repulsion and expansion. At the commencement of the Second Book he says: — "There is nothing more remarkable in the history of science, than that the phenomena of attraction should have been so far unfolded and generalized, without any definite knowledge as to its cause. It would seem that one of the first inquiries of the philosopher ought to be, what is the agent or cause of the force, by which the atoms of matter are held together? and that the most natural answer would be, that which surrounds and fills the spaces between them." But we have not space to follow the author in the clear and logical argument by which he has arrived at the following conclusions, which, nevertheless, we give entire:—

"1. That cohesion, chemical affinity, and capillary attraction, are modifications of that universal force by which planets and all other bodies are held together.

"2. That the particles of all bodies are surrounded by, and intimately combined with, an exceedingly subtile, active, and mobile principle, which in certain proportions holds them together, but in larger proportions separates or decomposes them.

"3. That the prevalent theory of physics which ascribes the phenomena of attraction to the inherent, or immaterial properties of ponderable matter, is fallacious, and wholly unsupported by evidence.

"4. That there is no such thing as a perfect *vacuum* in nature; neither in the pores of bodies, nor in those widely extended pores of the universe, termed the planetary spaces.

"5. That the *inertia* of matter is a philosophical fiction, because there is nothing quiescent in nature, or which possesses the *power of not acting*—neither in the starry heavens, nor in the frame of the earth. The sun revolves on his axis, and planets around the sun. The air, the ocean, and the solid ground, are for ever in motion. The molecules of plants and animals are in a state of rapid circulation and change. Yea, the invisible atoms of inorganic matter are in a state of perpetual oscillation and transformation.

"6. That the 'unknown hypothetical æther' of Sir I. Newton is identical with a true physical agent, the properties of which may be ascertained by the various mechanical, chemical, and physiological effects it produces; that it causes the aggregation and chemical union of bodies, whether simple or compound, by virtue of its *attraction for ponderable matter, and not by pressure*, as supposed by Newton; while it causes evaporation, gasefaction, explosion, with all the separations and expansions of matter, by virtue of its *idio-repulsive power*.

"7. That if the earth were wholly deprived of caloric, it would become a stupid mass of inert and chaotic matter, without form, and void of all power of attraction and repulsion, of solidity, fluidity, &c.

"8. That the total extinction of the solar fluid (if such a thing were possible), would mark the reign of everlasting stillness and death; that the same æthereal principle which lights up the universe with radiant glory, directs the planets through their orbits, and preserves them in a state of perpetual motion, circulation, and renovation. Finally, that caloric is the first of second causes."

All the meteorological, and most of the physical, phenomena that take place on the surface of our earth, are simply due to variations in the quantities, or in the effects, of the caloric that is ceaselessly emitted from the sun. "Were it not for the heating power of the sun," says our author, "there would be no contractions and expansions of the atmosphere, therefore no winds. But in the present order of things, not a single atom of the great aërial ocean is quiescent for a single moment of time. * * Were the earth of uniform surface and elevation, there would be a gradual and even diminution of temperature from the equator to the poles, and the

winds would be as regular as the movements of the heavenly bodies. But owing to the present distribution of land and sea, mountains and valleys, plains and woods, the temperature of the globe is infinitely diversified even in the same latitudes. Were it possible, indeed, to compute the aggregate forces of caloric in all the mechanical, chemical, and vital transformations, which are for the most part unobserved, we should be astonished at the result; but men are so accustomed to the regular course of nature, that they are less aroused by the grandeur of the sun rising in pomp and might, filling the world with beautiful creations, and diffusing every where the spirit of gladness, than by a passing meteor of the night."

That the whole theory of geological dynamics is immediately connected with the agency of caloric, is now universally admitted; and the way in which our author has connected the science of geology with that of astronomy and general physics is exceedingly happy. In the mass of interest which the book contains, indeed, this is one of the most interesting parts. The great changes of climate which the earth has certainly undergone, and the numerous cycles of organic life it has supported in the lapse of the long geological epochs whose histories are written in the deeply cut and clearly legible characters brought to light by modern science, are all referred to gradual changes in the inclination of the earth's axis, which, by varying from 0°, when the plane of the equator would correspond with the plane of the ecliptic, to 30, 40, or more degrees, suffices to explain all antecedent phenomena as satisfactorily as the present inclination of the earth's axis, of 23° 28′, enables us to account for all existing diversities of climate and of season. The obliquity of the earth's axis is admitted to be actually diminishing at the rate of one minute in 126¼ years; and if it goes on decreasing in the same ratio, without interruption or retrogradation, neither of which can be supposed, it will totally vanish in the course of about 177,760 years, when there will be no more winter nor variations of seasons in any part of the earth, and a grand physical millennium will ensue: then, in the words of the poet,—

"Will the spring
Perpetual smile on earth with verdant flowers,
Equal in days and nights, except to those
Beyond the polar circles; to them day
Will unbenighted shine, while the low sun,
To recompense his distance in their sight,
Will round the horizon still, and nothing know
Of rising East or sinking West."

The time has long gone by in science, when mighty names are allowed to have any influence of the kind that checks inquiry. In medicine, we debate the physiological conclusions of Harvey, and Hunter, and Haller; and, without dreaming of offence, we repudiate what is false, amend what is defective, and add that which is new. In physics, again, Kepler and Newton are freely canvassed, and their strong points confirmed and extended; their weak points, as a matter of course, rejected. Newton's first law of motion, for instance, which has long been held as very questionable by the highest authorities, most ably criticised by our author, under the guidance of his own peculiar views, and of all that science has achieved since that great man lived. This law, announced in these words in the first book of the Principia,—"Every body perseveres in its state of rest or of motion, unless compelled to change that state by forces impressed thereon,"—is the foundation, as is well known, of Newton's theory of planetary motion, according to which he maintains that, when first created, the earth and heavenly bodies were projected into empty space by the agency of a primitive impulse, communicated at various distances from their centres of gravity, by which their annual and diurnal revolutions have been ever since maintained without any renewal of the cause. See how ably our author criticises these views.

"In all the operations of nature with which we are best acquainted, *force is always expended in producing motion; and if not as constantly renewed, is very soon exhausted.* Nor have we the slightest proof, that motion is ever generated without the immediate agency of some active principle. The power of steam is created by the immediate agency of caloric, and ceases whenever the acting principle is withdrawn. The force with which a horse-shoe magnet of soft iron holds on to the armature is generated by the passage of an electric current through the wires which are coiled around it; but ceases the

moment the current is arrested. The metallic wire that connects the extremities of a voltaic battery, attracts iron filings, and deflects a magnetic needle in its vicinity, so long as the electric fluid is disengaged by chemical action, but ceases whenever that action is at an end. The powers of digestion, secretion, nutrition, and muscular motion, are generated by means of an active principle which is obtained from the atmosphere by respiration; but cease whenever that important function is arrested.

"But if it be true that caloric is perpetually radiated from the sun and fixed stars into the boundless regions of space, it must constitute an infinite ocean of æthereal essence, and there can be no such thing as a vacuum, which, as Aristotle rightly observed, would destroy all motion. Nor is it less obvious, that if caloric be a self-active principle, and is every where present, there can be no such condition of matter as *vis inertiæ*, which literally means the power of not acting. And that a single impulse is not competent to maintain the unceasing motion of planets and satellites, is evident from Newton's own hypothesis, that they are impelled or *drawn* with an equal force at right angles to the direction of the original projection. Moreover, when Newton referred the centrifugal force to the immediate agency of the Deity, and that of gravity to an inherent property of matter, he departed from that uniformity of nature and of causation on which all true science is founded. To be consistent, he ought to have referred all physical power to the immediate agency of the Deity, or to the inherent properties of matter.

"But if the centrifugal force of planets," proceeds our author, "be directly in proportion to the radiating power of the solar orb, caloric must be the cause of this force; for one essential character of a true cause is, that the effects it produces are a measure of its intensity. Nor is it less certain, that if the caloric which is perpetually radiated from the sun be not annihilated, it must either accumulate in the planetary spaces, and thus raise their mean temperature; or it must return to the great fountain from which it emanates. It also follows, that if the vast æthereal tide flow perpetually towards the sun, with the same force which it exerts in maintaining the centrifugal power of planets, there is no good reason why it should not be the cause of the centripetal force which maintains them in their orbits; consequently, that the projectile and gravitating forces of Sir Isaac Newton are owing to one and the same principle, which produces all the contractions and expansions, separations and combinations, of the particles of ponderable matter.

"Moreover, if it be true that there is an unceasing circulation of æthereal matter throughout the solar system, it will account for the revolution of the sun on his axis; a phenomenon which has never yet been explained in accordance with the Newtonian theory; and the knowledge of which is of fundamental importance to a right understanding of physical astronomy; as it is in the laws which regulate the actions of the sun, that we must seek for the origin of planetary motion."

Caloric, in short, is what Homer calls—

> "The golden everlasting chain,
> Whose strong embrace holds heaven, and earth, and main."

Dr. Metcalfe has also devoted a considerable portion of his work to the obscure subject of electricity, which he maintains is only a modification of caloric; and we have no hesitation in saying that, to our mind, he has clearly demonstrated their mutual convertibility, — that caloric is lightning, lightning a concentrated form of caloric, which, having converted a large quantity of water into vapour, is given off in an explosive manner on the sudden condensation of the vapour by a mass or current of cold air. In those parts of the world where no rain falls, *i. e.* where there is no sudden condensation of transparent aqueous vapour, there is no thunder and lightning; it is most frequent, on the contrary, in those latitudes and localities where, and at those seasons when, there is the most copious precipitation of moisture in the shape of rain. If caloric is proved, beyond all question, to be the true and only cause or agent in evaporation, which it certainly is, it becomes self-evident that the condensation and precipitation of the moisture can only be effected by the abstraction of this agent. Within the tropics, during the rainy season,

the first indication of an approaching storm is known generally to be a light wind, with a few scudding clouds; it begins to lighten, and the sky is immediately obscured by dense clouds, that forthwith descend in torrents of rain. It is the transparent or elastic aqueous vapour, therefore, that is the vehicle of the electricity—of the caloric,—not the masses of condensed moisture constituting clouds, as is commonly supposed. Lightning has occasionally been observed to dart from the clear sky, and the occurrence has been held one of those portents of which ignorant man is so observant. De Luc has described the phenomena attending so remarkable an incident which he observed. "The storm commenced with abundant discharges of electricity from," as he says, "*dry transparent air*, and clouds were formed around the summit of the Buet upon each explosion." Whence came the clouds, if the air was dry? The air, however, was charged with transparent aqueous vapour, which, being suddenly condensed, gave off its caloric in the concentrated form of lightning, and immediately fell as a cloud, or as rain. The author, along with several other persons, had an opportunity of witnessing the same phenomenon as De Luc has described on the 2d of June, 1833, at New York, about 7 P.M., after a showery day. "The wind was from the south, while the western sky was of a brassy hue, through which the descending sun was perfectly visible. In this state of the atmosphere, a vivid streak of lightning was seen to dart from it, when clouds were immediately formed that intercepted the solar rays, as if an immense black curtain had been drawn across the western sky, and attended with copious precipitations of rain. Several showers were thus produced by successive flashes of lightning; and during their intermissions the sky became partially transparent, but of a brassy hue as at first.

"Such facts afford more decisive information in regard to the nature of lightning, than volumes of mere speculation, or than thousands of artificial experiments; for they completely establish the important fact that elastic vapour, and not clouds, is the proximate source of atmospheric electricity."

We have, ourself, at the Polytechnic Institution, seen electric sparks, flashes of lightning, concentrated caloric, in streams half a yard in length, drawn from the steam pipes of a boiler, these electric sparks, or flashes of lightning, having been infused into the elastic vapour of the boiler by a coke fire beneath it. —But our space warns us to desist, at this time, from the interesting labour we have in hand; for next to the glory of having written an original and important work, is the pleasure which is experienced in perusing and analysing it. Dr. Metcalfe has undoubtedly achieved the glory; we have had the pleasure. In a second notice we shall shew how learning, linked with genius, handles the subject of life and organization.

MEDICAL GAZETTE.

Friday, May 17, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

PRESENT STATE AND FUTURE PROSPECTS OF THE MEDICAL PROFESSION.

"IT is said that among the policemen on the Great Western Railway, are eight members of the Royal College of Surgeons, and three solicitors."--*Globe;* transferred to *Times* of Friday, May 10.

We beg to call the serious attention to these words, of parents and guardians who may be contemplating the education of their sons and youthful charges to the medical profession. In the doubt and difficulty in which they are placed with regard to the disposal of the rising generation, let them pause before they thrust them upon a line of life in which the chance of success is becoming every day more and more largely mixed with the likelihood of failure, in which success itself is already a matter of comparative negation, for success now but barely enables a man to live, and scarcely permits him to cherish the hope of educating his family and sending them abroad into the world in advance of

his own station in society, which is always a point of honourable ambition with every mind of the better order. And let it not be said that these members of the Royal College of Surgeons and certificated solicitors were indifferent characters, *mauvais sujets*, men who broke down through inattention, or dissipation, or misconduct. The office of policeman upon a railway admits of no such unworthy subject as its representative. Policemen on railways are uniformly men of good conduct, and of sober habits. The sole explanation of the presence of these men in such a situation is to be found in the fact of their inability to exist by the profession in which their friends had placed them; and this by reason of no fault of theirs, but simply because of its overcrowded ranks. Men of education and intelligence are particularly in request upon railways; and as they are to be had upon the same terms as unlettered ignorance, they are, of course, greatly preferred by the directors, and do indeed make excellent servants.

WHY DO WE LIVE ISOLATEDLY AND ESTRANGED FROM ONE ANOTHER?

"M. Gay-Lussac was present, for the first time, at the meeting of the Academy, since the occurrence of his accident, and thanked the members for the interest they had shown upon the occasion.

"The President expressed to M. Gay-Lussac the great pleasure which his restoration to health afforded to all his colleagues."

These pleasant words commence a recent number of the *Comptes Rendus*, or Account of Proceedings of the Academy of Sciences of Paris, and they give us a lively picture of the interest which men of science, in France, take in one another. There is nothing more gratifying to the sick man, when he is once enabled to shew himself abroad again, than to find a welcome to the sun and air from his friends—from a single friend, casually encountered. How much more gratifying must it be to be welcomed by his associates in a body; to be bidden joy of his recovery by all at once whom he prizes most; to feel, from their eagerness to press his hand, that he was really dear to them, and that, had he died, he would in truth have had mourners among his fellows, who knew him best!

In England, and in London especially, we live too isolatedly, too much apart from one another; we fall sick, and we die and are buried, and not a soul, of all who knew us most intimately abroad, is aware of the circumstance till he meets us in the minion type of the Times newspaper, or—but this only in case we happen to have had some one who was peculiarly interested in us at home, and who watched the lamp as it faded, and flickered, and went out—till a card with a black border returns him thanks for the kind inquiries which he would have made had he known a syllable of our illness, but which, knowing nothing about it, he never made, and now feels sorry he had no opportunity of making.

It is a pity that *we* of the medical profession know so little, see so little of one another, that we have so little of truly legitimate and social intercourse. We are the comforters of all else who are in trouble and affliction, but we live without sympathy with one another; and if not in hostility, at least in the metropolis, for we rarely quarrel outright in London—it is only in Edinburgh that the doctors cut each other's throats—yet in indifference. Whence is this? We believe it is because we have no proper head, no rallying point, no centre where we can meet *en masse* on a footing of equality. Our societies do not supply the deficiency. In these there is too much of jostling and debate, too much of purpose to stand preemi-

nent, to shine, making perchance a foil of a brother to set off our own clear water. It is, therefore, with sincere pleasure that we see the recently-elected President of the College of Physicians, Dr. Paris, opening his house and holding out the hand of friendship and of fellowship to his brethren in such wise as makes us see this distinguished man even doubly worthy of the honour that has been conferred upon him. At such assemblies as those of which the President of the College of Physicians held one on Saturday evening last, we do indeed meet on a footing of freedom and of intimacy that is delightful; and there too we find an opportunity not only of knowing all that is most distinguished in our own profession, but of making the acquaintance of Right Reverend Prelates, and of Noblemen and Gentlemen known for their love of science and of letters; men who are pleased to associate with us, and with whom we in turn are pleased to associate. Such assemblies cannot fail to have the very best effect, not only by knitting the bonds of good understanding among ourselves, but of extending these bonds, and of linking us as representatives of our profession with those having political authority — a class from which we are too much estranged, whether it be for their sakes or our own. The only misfortune is, that as no private gentleman can hope to see *all* the profession at his house, the good effects of such meetings are necessarily limited. Dr. Paris, however, is not the only distinguished physician who receives his brethren in this pleasant way, and we trust that until we combine and get something of a Common Hall, or place of general meeting, which we ought to have, others of rank and influence in the profession will be found to follow up the good example he has set.

THE ROYAL COLLEGE OF SURGEONS.

It is said to be the purpose of the Council of the Royal College of Surgeons to give the most liberal interpretation to their lately received new charter; to raise to the rank of the fellowship all the members of a certain standing, who do not practise at once as surgeons, and trade as chemists and druggists; and to confer the same honour upon younger members, either on the recommendation of three of the present 300 select Fellows, or on their giving proof of their worthiness by undergoing the prescribed examination.

SYDENHAM SOCIETY.

The Anniversary Meeting of the Members of this Society was held at the rooms of the Royal Medical and Chirurgical Society, on Wednesday, the 1st inst.: Sir James Clark, Bart. in the Chair. The report gave a very satisfactory account of the affairs of the Society, which now numbers upwards of 1700 members; and so well have the funds of the Society been managed, that the members of the past year will receive three handsome and valuable volumes—Hecker's Epidemics of the Middle Ages, Louis on Phthisis, and a new and admirable edition of Sydenham's Works, by the learned Dr. Greenhill, of Oxford. Dr. Paris was elected President, in the room of the late Sir H. Halford; Dr. Babington, Treasurer; and Dr. J. R. Bennett, Secretary.

We cannot refuse ourselves the pleasure of adding a word recommendatory of this excellent Society, the objects of which are, indeed, of the best kind. Letters will not make the practitioner, it is true; but the practitioner is immensely aided and improved by letters. The Sydenham Society is the act of the profession to knit the bonds between learning and experience, between experience and learning; its want had been long felt by many of the better heads among us; and we confidently anticipate that, considerable as the number of members already is, it is destined to be tripled, or quadrupled, before the Society has reached its limits. The works in preparation for the present year's issue are the following:—Schwann's celebrated Essay on the Microscopic Identity of Structure of Plants and Animals, Hasse's Morbid Anatomy of the Thoracic Viscera, Hewson's Works, and the Works of Paulus Ægineta.

MEDICAL PROTECTION ASSEMBLY.

REMARKS ON THEIR ADDRESS.

To the Editor of the Medical Gazette.

Sir,

Permit me as an old surgeon—one of your earliest subscribers—to make a few remarks on "An Address from the Medical Protection Assembly," published in your last Gazette. Instead of viewing that production as calculated to "command attention" or "secure respect," I consider it mere bombast—an ebullition of faction. Besides, it bears falsehood on its front, in assuming to emanate from "the Members of the College," of whom, I imagine, only a comparatively insignificant number know anything about the matter.

The agitators are a sort of universal-suffrage men: they breathe not a word in relation to character, attainments, or experience, as essentials for the fellowship—a distinction that would be rendered worse than valueless by indiscriminate admissions. For who that possesses gentlemanly feeling would like to be associated with persons whose diplomas have not raised them above shop-keepers, or the vulgar practice of enticement by coloured bottles?

They talk of *enfranchisement*—a captivating word! but where is their thraldom? They have obtained, by a trifling payment of twenty guineas, the rights of members of the College, in access to its lectures, its magnificent museum and library;—recognition as surgeons, qualifications for lucrative appointments, and a passport to all the real advantages of the profession!

With these I have been ever satisfied. The shelter of my own vine and fig-tree, as the result of legitimate application, is somewhat better than the "protection" of the new associations, with which nine-tenths of English surgeons have no sympathy.

I am enabled to make this assertion by free intercourse with my professional brethren spread over a hundred square miles, of whom a large majority repose unlimited confidence in the discretion of the Council, and encourage no morbid desire for the new honour, independently of well-known and appreciated merit.

If the excited authors of the "Address" have cooled down sufficiently for sober reading, I recommend them to peruse the recently published life of Lord St. Vincent—it is excellent on points of discipline. I will quote a passage:—

"The shipwrights sent up to the Admiralty a set of delegates, who were expected to extort from the Board a compliance with several exorbitant demands. These gentlemen delegates were thunderstruck on being informed that the Board had ordered they should be turned out of the Admiralty yard into the street!"—I am, sir,

Your obedient servant,

A Lover of Order.

May 4, 1844.

[Many men, many minds! *Licet omnibus*, &c. as we say by way of motto; and, therefore, we publish the letter of our old surgeon and friend. We have said our brief say on the "Address," and stick to it. If these same shipwrights made exorbitant demands of their superiors, their superiors served them right by turning them into the street. But when one party of gentlemen respectfully address another party of gentlemen, their equals, in so far as we have opportunity of judging from their tone and language, and rather admonishing them of their power to grant, than entreating them for certain concessions, we think there is always grace and breeding shown in listening, often both wisdom and justice displayed in yielding to the prayer of the petition.—Ed. Gaz.]

UTILITY OF OPERATIONS IN THE CANCEROUS DIATHESIS.

At the meeting of the Royal Academy of Sciences of the 18th ultimo, Leroy d'Etoilles read a memoir upon this subject. The most important element, in the surgical question, says the author, is to know whether or not it be true, that the disease, local at first, degenerates into a constitutional affection, and to ascertain whether the removal of the cancerous mass at an early period hinders this degeneration. The belief that these questions ought to be answered in the affirmative, and which influences surgeons in their practice through the early period of their professional life, would not, however, appear to be borne out by facts. Thus, M. Leroy has found that among 801 operations 117 had been performed within a year from the first appearance of the symptoms. Of the 117, however, there were already at the date of writing 61 in a state of relapse. But as 112 of the 801 operations had been done less than a year, it is certain that the number of relapses is more considerable now.

The results of operations for cancers of the lip are curious, from the differences they exhibit in regard to the two sexes. Of 633 men affected with cancer, there were 165 cases in which the disease was situated in the lip. 114 of them were removed with the knife, 12 with caustics; there were 15 ascertained relapses, or about one eighth. Of 2148 women affected with cancer, again, there were no more than 34 in which the lip was the seat of the disease; 22 became subjects of operation; 7 relapsed, or about one third.

There is no such difference of result in reference to cancer of the tongue; the disease is equally fatal in both sexes. Of nine operations in which the tongue was extirpated on account of cancer, three were done within a year of the commencement of the disease, and they recovered. The six others died with recurrence of the disease.

With regard to tumors of the breast, of 277 operations 73 were performed within the last two years, and the issue of these cannot yet be known. Of the 204 which remain, 22 had died within a year of the operation, and 87 had relapsed; more than one-half, consequently, had either been, or were about to become, the victims of the disease. In 27 of the cases the operation had been performed in the course of the year from the first appearance of the disease.

On the whole, M. Leroy believes that the following conclusions may be fairly drawn:—

1st, That the operation does not arrest the course of cancerous disease.

2d, The operation ought not to be had recourse to as a general means of treating cancer except in connection with the disease situated in the skin, or in the lips.

3d, The only plea for extirpating cancers in other organs is dangerous hæmorrhage occasioned by the progress of the ulcerative process.

MICROSCOPICAL AND PHYSIOLOGICAL RESEARCHES INTO THE NATURE, ETC. OF TUBERCLE.

By Dr. Lebert.

The constant microscopical elements of tubercle are: molecular granules, an interglobular hyaline substance, and certain corpuscles or globules peculiar to this abnormal product. The corpuscles are from the 0·005 to the 0·010 of a millimetre in diameter; their form is irregular, angular, the angles rounded; their contour is in general extremely distinct; they are yellowish, somewhat opaline, and contain in their contour a number of molecular granules, but no nucleus. Water, ether, and weak acids, scarcely alter them; concentrated acids, solution of ammonia, and of caustic potash, dissolve them. The yellow crude tubercle is the best subject for study. It is erroneous to suppose that tubercle is nothing more than a modification of pus; there are decided and distinct differences between the corpuscles of each substance, those of pus being larger, regularly spherical, containing one, two, or three nuclei, presenting a granular, or raspberry surface, and being free or isolated; whilst those of tubercle, especially in the crude state, are closely connected together. The globules of cancer are two or three times as large again as those of tubercle, and contain a nucleus which frequently includes one, two, or three nucleoli.

The corpuscles of tubercle, when softening, absorb fluid, and become a little larger, and also become more segregated, but they still preserve their distinctive characters for a time; by and by they melt down into a granular fluid. Any pus globule that is met with among tubercular matter has proceeded from the surrounding parts, never from any transformation of the tubercle itself.

We often discover oil, melanotic matter, greenish-coloured fibres, globules, and crystals, having the form of those of the ammonio-magnesian phosphate, mingled with proper tubercular corpuscles and matter. When tubercles become cretaceous, we farther find amorphous mineral granules mixed with crystals of cholesterine and pigmentary elements.

Tubercles of the lung are usually seated in the elastic cellular intervascular tissue, but occasionally, also, in the cells, and even in the minute bronchi. The surrounding textures are mostly normal. The well-known grey semitransparent granulations of the lungs are tubercular; they do not always precede or prove the first step in the formation of the yellow miliary tubercle. These grey granulations are proved by the microscope to be no product of inflammatory action.

A tubercular cavern is a pulmonary ulcer, like any other ulcer. The fluid contents of these caverns are—*a.* tubercular matter, properly so called; *b.* pus globules; *c.* pyroid globules; *d.* granular globules; *e.* mucus; *f.* blood-discs; *g.* pulmonary fibres; *h.* pigment; *i.* epithelium; *k.* crystals; *l.* oil globules. Under the fluid we frequently find a true but incomplete pyogenic membrane.

The expectoration of phthisical patients comprises all the elements above enumerated, and even several others, such as little yellowish pellicles, remains of small membranes, certain vibrios, and the remains of food accidentally mixed with it.

Tubercles of the osseous system are rarer than is frequently believed; masses of concrete pus in bones are often taken for tubercular deposits.

Scrofulous diseases must be separated from tubercular affections, as also those chronic inflammations of the eyes, the glands, the skin, the bones, and joints, in which the most attentive examination brings to light no particular dysecrasia.

The grey granulations of the cerebral meninges contain the globules proper to tubercle; and the liver is often extensively affected with proper tubercle, which is sometimes confounded with cancer. The microscope enables us to distinguish between them.

The intestinal tuberculous ulcer does not produce pus; there is merely the debris of the mucous and muscular coats mingled with different tubercular corpuscles and cylinder epithelial scales, the young cells of which are apt to be mistaken for pus globules.

In a few very rare cases tubercular matter is discovered between the coats of arteries. The pericardium occasionally contains an abundance of tubercular matter in old false membranes.

Tubercle and cancer are not mutually exclusive; they are occasionally encountered together.—*Comptes Rendus*, No. 10, 1844.

GENERAL LAWS REGULATING THE DISPLACEMENT OF FRACTURES.

M. Ed. Lacroix has published an interesting and philosophical paper on this subject, to which we beg to direct the particular attention of our surgical readers. His general conclusion is, that "*The displacements of bones occur in angles which have the same sines directed in the same planes and in the same sense as the natural curves of the bones implicated.*"

Clavicle.—Displacement variable according to the point broken; *forwards* when the two external thirds are broken off from the inner third; *backwards* when the two inner thirds are severed from the outer third; *upwards*, so as to form an angle with its apex superior, where the seat of fracture is the middle of the bone. When the clavicle is broken in two places, one towards the sternal, the other towards the acromial extremity, the natural curves of the bone are replaced by two angular knees, one of which corresponds to each of the solutions of continuity.

Humerus.—Displacement generally *outwards*, so as to form an angle the apex of which is external when the shaft of the bone is broken, not outwards and upwards as is commonly said by writers; the inferior portion of the bone is most apt to get in front of the superior. In fracture of the inferior extremity the displacement is mostly *forwards*, and there is generally an increase of concavity inwards, of convexity outwards; the inferior portion is also very apt to *rotate outwards and inwards.*

Forearm.—Tendency to displacement, *outwards and backwards*, when both bones give way in the middle. The ulna alone fractured in its upper portion, the tendency is to displacement *backwards and outwards;* in its lower portion to displacement *forwards and inwards.* The radius having given way singly in its upper third, the tendency to displacement is inwards, to the formation of an angle, the apex of which looks inwards; the bone having yielded in the middle, the angle of displacement will regard *backwards;* and having failed in its lower third, the angle will turn *inwards and backwards.*

Femur.—Wherever seat of the fracture, the extremity of the superior portion of the bone tends to get *in front* of the inferior, and to form an angle projecting outwards.

Tibia.—When the bone is broken in its lower moiety, there is a general tendency to rotation, in which the inner malleolus becomes more anterior; and to the formation of an angle, the apex of which looks *backwards.*

Fibula.—Constant tendency to form an angle whose apex regards inwards, and more or less backwards.

Tibia and Fibula.—General tendency to the formation of an angle, with its apex turned posteriorly and internally. Less disposition to rotation than when either of the bones is broken singly.

But we must refer to the original and very ingenious paper of M. Lacroix for other and more particular information, in *Annales de la Chirurgie Française, &c.* Mars 1844.

THE NEAPOLITAN MEDICAL PRACTITIONER,

AND NEAPOLITAN MEDICINE.

Did the physician fail in the slightest of his duties as a thorough-going Roman Catholic, he would lose all credit, and would vainly hope for employment from the very lowest of the populace. From conviction, therefore, or necessity, he goes with the stream; he dares not oppose it in any way; he must not doubt of the efficacy of the sick man's devotions towards the recovery of his health, nor of the power of the amulets which the sound man wears in his bosom to preserve it. On the contrary, he must sometimes even recommend exorcisms and charms, as moral means at least. The principal ornament of the physician's consulting room at Naples is always a picture of the Madonna between two ornamented candlesticks. His first prescription in every case that keeps the patient in bed is to have a figure of the Virgin set upon a table covered in the fashion of an altar in the bed-room. The figure is bedecked with flowers and jewellery, and a lamp burns night and day before it. But the religious observance of the sick man does not stop here; however high his estimate of the celestial powers, it is by no means exclusive: as a good catholic he has a firm faith in the two principles, one good, the other evil, and he has no notion of imprudently committing himself to the protection of the first alone; he must likewise propitiate the second, and

take means to guard himself against its malevolent influences. It is this belief that has given rise to a prejudice or superstition known under the general title of *jettura*, or evil eye. The devil does not act of himself so much as by proxy; these devil's proxies are *jettatori*, and it is enough to have a forbidding physiognomy to acquire the reputation of being one of that number. An enemy is of course always a *jettatore*. In front of such a conviction the Neapolitan has of course sought out some means of defence, and has happily found one which he holds to be of sovereign efficacy. It is extremely simple, and consists in carrying about with him a piece of coral, shell, or ivory, sculptured in the fashion of a horn; the shirt and breast-pins, the pendants from the bracelets, and the other little ornaments brought into play by Neapolitan coquetry, which have this fashion, are all of them so many amulets; and it is enough, having met a suspicious-looking person, to touch the amulet, to render his malevolent purposes null. To guard more effectually against *jettatura* or evil eye, the passage, lobby, or entrance-hall of the houses, have usually one or more pairs of these strange amulets upon a large scale, which perform the part of sentinel at the door. There is further safety in multiplying these horn-shaped amulets, so that they are frequently met with in every room of a respectable house; and the image of the blessed Virgin herself is sometimes flanked by a couple of them. The Virgin is a very good protectress, it is true; but the spirit of evil has too frequently got the upper hand in the world, to excuse any one for sleeping over securely, and relying too implicitly on her heavenly countenance.—*M. Carrère, in Gaz. Méd. de Paris*, No. 13.

[The above extract gives a curious picture not only of the state of medicine, but of a state of society which has long passed among us. A *horn* was often used as a symbol of sanctity among the ancients, as also of abundance—the horn of plenty. The head of Jupiter was sometimes crowned with horns—Jupiter Ammon, so was that of Bacchus, and all the world knows that Michael Angelo, not without warranty, has sculptured Moses in the same way. On one or other of the ancient zodiacs, instead of a *ram* as the sign of the vernal equinox, there is merely a pair of horns—a part was put for the whole.—The sun returns to the northern hemisphere in the sign of the ram, and with his return brings light and life; hence, say mythologists, the reverence in which the horn was held, is still held, as we see, among the Neapolitans.—Ed. Gaz.]

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

List of Gentlemen admitted Members May 10.—J. B. Barry.—M. H. Higginbottom.—R. T. Cobbold.—N. F. Hedley.—J. Fitzmaurice.—E. H. Edge.—A. Stansbury.—W. S. Walsh.—W. Leapingwell.—W. Brown.

NOTICE TO CORRESPONDENTS.

We have the excellent letter of "A.B.C.," and thank him for his suggestions, which he will perceive we shall by and by bring to bear upon the *enemy*.

Mr. Bird will have seen by this time that we differ from him entirely, and that it would be absurd in us to publish his letter, for which we nevertheless thank him. It is left at our printer's, or will be sent to his address should he desire it.

Guyensis' scheme is good. If he would make it *general*, not particular, we should take an opportunity of using it to advantage.

Medicus "On Medical Reform," is unavoidably postponed.

MORTALITY IN THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, May 4.

Dropsy, Cancer, Diseases of Uncertain Seat	105
Diseases of the Brain, Nerves, and Senses..	145
Diseases of Lungs and Organs of Respiration	273
Diseases of the Heart and Blood-vessels	32
Diseases of Stomach, Organs of Digestion, &c.	59
Diseases of the Kidneys, &c.....	11
Childbed	2
Paramenia.....	1
Ovarian Dropsy	1
Disease of Uterus, &c.	0
Arthritis	0
Rheumatism	2
Diseases of Joints, &c.	6
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.	1
Old Age or Natural Decay.....	45
Deaths by Violence, Privation, &c.....	21
Small Pox	31
Measles	7
Scarlatina	24
Hooping Cough	39
Croup	13
Thrush	3
Diarrhœa	8
Dysentery	1
Cholera	0
Influenza.....	1
Ague.....	1
Remittent Fever	1
Typhus	36
Erysipelas	3
Syphilis	1
Hydrophobia.....	0
Causes not specified	4
Deaths from all Causes	877

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, MAY 24, 1844.

SUBSTANCE OF A CLINICAL LECTURE,

I.

ON INJURIES OF THE KIDNEYS.

II.

ON A CASE OF STRANGULATED INGUINAL HERNIA.

Delivered at St. George's Hospital,

By Cæsar Hawkins, Esq.
Surgeon to St. George's Hospital.

George Froggatt, æt. 24, was admitted May 9th, at two o'clock in the afternoon. He was thrown off a horse this morning, and fell upon some railings on his left side, and afterwards upon the road. He could walk afterwards, but complains of pain on pressure at the lower part of the loins of the left side, and near the crest of the ilium, which parts are slightly bruised. No crepitus could be discovered. He says that he passed about a quarter of a pint of pure blood from the bladder about an hour after the accident, and has passed some blood in his water since his admission. There is no pain in the region of the bladder, and he has perfect motion of his legs. He has had pain in the loins some time before the accident, for which he has been under treatment. He has also slight cough.

5 P.M.—Pain much worse; pulse quick and strong; some sickness.

C. cruent. ad ℥viij.

Vespere. — Pain not relieved by being cupped; still passes some blood in the urine, and also a large quantity of lithate of ammonia. Leeches ordered.

On the next day, the 10th, the notes say, —Still more blood in the water, with a larger quantity of lithate of ammonia; bowels not open; pain lessened.

Calomel. gr. v. h.s.s. Sodæ Potassio Tart. ℥vj. mane.

11th.—Was sick last night; bilious matter. More pain in the side, which was relieved by chamomile poultice. Still much lithates; urine made transparent by heat; consequently without blood, or nearly so.

13th.—Less pain; but the urine is darker coloured from a little blood, but has less lithates. It is therefore transparent till heat is applied, when a little coagulum is thrown down.

Rep. Pil. et Haust. Sal.

14th.—Urine clear. [The urine has again contained some blood since the Lecture, but the man is going on well.—May 21st.]

Now here, gentlemen, I am inclined to think, from the nature of the injury, the sickness, the blood and lithates in the water, and the seat of the pain, is an instance of injury of the left kidney; and as I think this organ is injured more frequently than you might suppose from the little that is said about it in books, I propose first to-day to make some remarks upon such cases. I shall not allude to wounds of the kidney, of which some cases are to be found, but of which I know nothing, as I have not seen an instance myself. I had the curiosity yesterday afternoon to look through the indices of all the volumes of the two chief journals of the present day, the Medical Gazette and the Lancet, which profess to give very many reports, for the last twenty years and upwards, of cases of interest in the metropolitan and provincial hospitals, and of those abroad also; and yet, in upwards of eighty volumes, I only find reference to three cases: two of these are in the Medical Gazette, one of which is that of a patient of my own, and one is from the London Hospital; and the third case is reported in the Lancet, from St. Bartholomew's Hospital. Yet I believe I have seen a good many cases in which the kidney has been lacerated, or otherwise injured; but (which is one reason why so little is written on the subject) a great many persons who, I think, have experienced such an accident, have afterwards recovered, as even those have done who have had the

kidney directly wounded from without. Thus I only find in our post-mortem register, in the last three years, one fatal case recorded, which was in my accident week.

This was a man, Joseph Hunter, æt. 25, admitted August 8th, last year, in a perfect state of collapse, after a fall, I think, from a height, who died four hours after admission. There was no external appearance of injury, with the exception of the skin being discoloured over the right haunch. All the ribs of the right side were broken externally to their angles, the third, fifth, and seventh being again broken two or three inches posterior to their junction with their costal cartilages. There was considerable effusion of blood in the right pleura, and the middle lobe of the lung was lacerated. In the abdomen the liver was superficially lacerated all over. The right kidney was also considerably lacerated, with effusion of blood into the peritoneum, and round the kidney. The right ilium was fractured obliquely from the anterior superior spinous process to the posterior, and there was much effusion of blood under the fascia.

1. Such a complicated injury as this would necessarily prove fatal; and you see in it one mode in which laceration of the kidney may be fatal, namely, by hæmorrhage into the cavity of the peritoneum, with the addition probably, if the quantity of blood lost did not itself cause death, of the passage of some urine into the peritoneum, and its there producing its usual irritating effects.

Such laceration of this organ may occur from a fall, or a direct blow on the side, and is often accompanied by fracture of some of the lower ribs. It is, of course, more likely to take place if the kidney happen to contain a calculus, which will resist the blow from within, so that the structure is squeezed between two hard bodies. I remember a man being brought into the hospital under Mr. Keate, who thus, unfortunately, had calculi in both kidneys; and one of them being ruptured, with the peritoneum in contact with it, the patient died of the hæmorrhage. Whether our present patient has had a calculus dislodged by his fall, or the kidney torn, I cannot say; but you will observe that our notes mention his having been under treatment before the accident for pain in the loins.

2. Secondly, the substance of the kidney being lacerated, with its capsule, blood and urine may escape into the cellular tissue around it, without the serous membrane being torn; and the fatter the person is, the more distant the peritoneum will of course be from the gland. A great quantity of blood may here be effused, and cause death by its loss or by irritation; and the urine may add to this irritation, as it escapes from the lacerated part. It is curious that secondary hæmorrhage may thus be fatal some time after the patient has appeared to be going on well. There may be no blood, perhaps, in the urine, or it may have stopped, and on the third or fourth day after the injury there comes on sudden prostration, and pain and irritation, and the patient dies, and a great quantity of blood is found at the back of the abdomen, behind the peritoneum. I have seen this myself, both with laceration of the kidney and also of the spleen, in different cases,—the latest on the fifth day; but of the two cases, which I mentioned as being recorded in the journals besides my own, one was said to have been an instance of secondary bleeding as late as the tenth day. It was in a man taken to the London Hospital after a wall had fallen on him, who appeared to be going on well, only complaining of weakness, till ten days afterwards, when he was suddenly seized with great pain in the loins and prostration of strength, and the abdomen became distended, and he died eight or nine hours after this attack; and on examination, a great mass of blood was found behind the peritoneum, in the middle of which the kidney was found torn in half.

3. In the next place, there may be no laceration of the capsule of the kidney, but an injury may extend into the infundibula and pelvis of this gland, so that the effused blood escapes into the interior, and there is hæmaturia. The quantity that may be lost in this way is very great. A man, for instance, was brought to the hospital under my care, who had fallen from a coach-box, and probably had a fracture of part of the base of the skull. In the evening there came away with the water not less probably than three pints of blood; and a great quantity continued for the next three days, so that he was very near dying of the hæmorrhage; after which it gradually diminished, and he got well.

But you will naturally ask, how do I know that the blood came from the kidney at all? In most cases, perhaps, of hæmaturia, the blood is derived from the vessels of the bladder, and is very often witnessed when the pelvis is fractured; and it is curious that in many cases, where a good deal escapes, and you have no doubt of its being from the bladder, you can nevertheless scarcely find what has been its exact source. In our post-mortem register, for instance, is the case of a man, whom some gentlemen may remember, who was admitted in February last year, under Mr. Babington's care, and who had a good deal of blood in the urine. He had a fracture of the sacrum, and separation of the synchondrosis ilii, and of the symphysis pubis; and in the bladder was a spot of ecchymosis: but it is noticed that there was no lesion of the mucous membrane,

though its vessels, in all probability, must have been injured to occasion the hæmorrhage. But there can be no doubt that in some cases of blood in the urine it is derived from rupture of vessels in the kidney, the injury being, however, not to any great extent. If a blow has been confined to the side, with or without fracture of the short ribs; if there has been no fall likely to have done mischief about the bladder (and the ureter is incapable of bleeding much), particularly if the blood is equally diffused in the water, or is moulded, as in this preparation, to the shape of the ureter, you can scarcely doubt that the kidney is the source of the blood. In our patient there is some pain and bruise down the whole side, making the case less certain, and the blood first passed is said by him to have been nearly pure, which it more frequently is when the bladder is injured; but this appearance is of course not at all inconsistent with a renal origin, if the bladder happens not to contain much water when the blood gets into it.

It is curious, however, that you will sometimes feel uncertain, even after death, when the injuries are somewhat complicated. A man was admitted under my care into the hospital, who had fallen from a scaffold about fifty feet, striking against the lower scaffold, and thence into the area. He was stunned for a short time, and remained in a state of collapse for some hours. He had several of his ribs broken on the left side, followed by inflammation of the lungs, of which he died twelve days afterwards. He had contusions in several parts, particularly in the right groin and pubes, and in the loins. He made water without difficulty or pain, but it contained a good deal of blood, giving it a dark colour, though without coagula: this began to diminish two days afterwards, but he had much pain in the left side and downwards towards the hip. The bladder seemed uninjured, with some coagula near it from separation of the pubes, the joint not being inflamed; and the left kidney, which I supposed was the source of the hæmorrhage during his life, was much more vascular than the other, but I could not find any rent in its substance. The lung was much inflamed.

A man was admitted into the hospital after having fallen sixty feet from a scaffold upon some timber, among which were a number of iron bolts, and he supposes he must have fallen upon one of them. There was a small wound behind the anterior superior spinous process of the ilium, to the bottom of which the finger could not reach, and the glutei muscles seemed much torn away from their origin. A small piece of the spinous process was broken off, and a larger piece was found to be cut, as by a sharp instrument, along the whole length of the bone, but was not loose; and there was also a fracture of the ramus of the pubes close to the symphysis, with effused blood in both places. In this man, the bladder was the next day full, and required the use of the catheter; and on the second day the urine was mixed with a large quantity of blood; the third day it was again clear. This man was very restless and weak, particularly after the bleeding in the water: there was some delirium, as if from depression; and on the third day the urine and fæces passed involuntarily, though the motion and sensation of the legs were perfect. He died on the third day, and, to shew the source of the hæmorrhage with the urine, I found a little effusion of blood in the texture of both kidneys, with slight hæmorrhage in the cellular tissue round them, but no direct laceration of either. If, then, the bleeding, as I believe it did, took place in these cases from the kidney, it is evident that an injury, accompanied by hæmaturia, may implicate the gland so little as not at all to interfere with the recovery of the patient; and therefore in most fatal cases we may expect some complication with injury of the chest, or of the pelvis, the latter of which leaves the source of the bleeding somewhat in doubt.

4. Your diagnosis in cases of injuries of the side will sometimes be assisted by your finding the secretion of urine altered; in our present patient, for instance, you have seen the water much loaded with lithate of ammonia. A man was under my care with fractured ribs after a blow, who felt great pain in the side, and had bloody urine, the blood being diffused through it without coagula, and on the third day the quantity of lithates mixed with the water was not less than a third in height in the vessel which you looked at; but in a week's time it was all right again. The deposit of the saline ingredients of the urine is quite disproportioned to the fever produced by the accident, which, in our patient, has been almost nothing, and such an alteration of secretion, with blood, and with pain in the side or loins, following a blow over the short ribs, or on the lower part of the back, may be considered, I think, tolerably decisive of there having been some bruise or laceration of the kidney.

5. In some cases of injury you will find a mixture of symptoms arising from injury of the bladder, or its nerves, or concussion of the spine, besides what appears to be some injury of the kidney. A man was under my care for a fracture of the leg, occasioned by a fall from a tree in the Park: at first, the bladder was paralysed, so that he required the catheter, the urine being healthy; then in a day or two there was deposited a great quantity of lithates, and shortly he had much irritation of the bladder, with

constant desire of passing it, though he remained incapable of expelling it: then he recovered some power over the bladder, and a large secretion of mucus took place from this organ, in consequence probably of the deposit of the lithates to such an extent, and in the course of a fortnight all these symptoms subsided. Another man was under my care many years ago, about the time of those remarkable crimes in Edinburgh, connected with our profession, which gave a new name to the catalogue; this man, a tailor, unfortunately dreamt that he was being Burked, as it was called, and, getting out of bed in his sleep, fell from the top to the bottom of the house through a skylight, which perhaps broke his fall so as to save his life. He had a fracture of the pubes, and of some ribs, and being unable to make water, I passed a catheter, and found only one table-spoonful of blood and very high-coloured urine; for the next twenty-four hours not a drop seemed to be secreted: after this time a very small quantity was found, exceedingly fœtid, very acid, and with copious deposit of lithates, and with sulphuretted hydrogen enough to colour the catheter; and it was several days before the natural quantity and quality of the urine were restored. On the third day, the bladder recovered a little expulsive power, which then again ceased, and it waa nearly six weeks before the bladder and the muscles of the legs, which were also partially paralysed, fully regained their power of contraction. The man finally recovered, and probably suffered from concussion of the spine, in consequence of which the functions of the kidneys were for a time suspended, as if their nerves were cut or injured in experiment.

6. A further consequence of injuries of the kidney seems to be suppuration within the organ, of which this case is an example. Charles Bradford, 24 years of age, was admitted under my care in October 1829, saying that a fortnight before he had fallen from a horse, and had had bloody urine two days afterwards, and at intervals since that time. Five days before his admission, an increase of pain took place, with fever, and pus came away in considerable quantity with the water. He had, on his admission, much tenderness on the right side, and constant pain referred to the right lumbar region, and there was much pus in the water. He had a full strong pulse, a loaded tongue, and anxious countenance, and he had previously had ascites, and had suffered from rheumatism, with disease of the heart. In the course of a month he went out nearly well, having previously had the irritation excited by the pus in the water propagated to the orifices of the vasa deferentia, so as to occasion hernia humoralis, and to the urethra also, producing a purulent discharge from that membrane, as in gonorrhœa. He was again admitted at the end of November, with some return of pain in the loins, abdomen, and chest, and cough, and other symptoms of hypertrophy of the heart, of which he was very near dying, and finally left the hospital nearly well at the end of December, no longer feeling any pain in the situation of the kidney.

This is the only case in which I have seen suppuration follow an apparent injury of the kidney at this early period, but in many cases of abscess in this organ and around it, which I have had under my care, or have witnessed, some blow or strain has been experienced at some former time, and has been said to have given rise to the train of symptoms which ended in renal abscess. Of the two cases I just alluded to as being recorded in the journals, one contained in the Lancet is said to have been an abscess of the kidney, opened six months after an injury by Mr. Stanley; the termination of the case, however, is not mentioned. Chronic inflammation ending in abscess need not occupy our attention at present, as whatever may have been its origin, the treatment necessary for it does not differ from ordinary cases of disease of this organ.

7. There is yet one more effect of injuries of the kidney which I must mention in order to complete the subject. You will find, in the Medical Gazette of Nov. 24th, of last year, an abstract of a paper by Mr. Stanley, giving an account of two cases of injury, in the first of which a boy was squeezed between the wheel of a cart and the curbstone, the consequence of which, besides suppuration about the pelvis, was the formation of a fluctuating tumor on one side of the abdomen, the urine paasing naturally; about nine weeks afterwards it was punctured, and nearly three pints of clear yellow fluid evacuated; and again twice more at intervals of eleven and sixteen days. Three months after this four pints were let out, then only six ounces; and after this the boy got well, or at least not suffering from what swelling remained. In the fluid which was drawn off, urea and the other ordinary ingredients of urine were found on analysis.

In the other case, the patient, a woman, who was knocked down by, and pushed before the wheel of, a cart, died about ten weeks after the injury. Two or three pints of similar urinous fluid had been drawn off; and, on examination, a large cyst was found behind the peritoneum, and reaching from the diaphragm to the brim of the pelvis; and out of this sac a large irregular opening led into the pelvis of the kidney; and it was concluded that in this and in the former case a laceration of the pelvis of the kidney had been produced by the injury. In the

eighteenth volume of the Medico-Chirurgical Transactions I published an account of a case from which I took the preparation on the table before us, which I believed to have been an instance of aqueous encysted tumor of the kidney, similar to this transparent cyst of the kidney of another patient, which you see contained about half a pint of watery fluid. The boy, in this case, was admitted three weeks after he had been struck down by a carriage, and probably run over by it, with a considerable sized swelling on the right side of the abdomen, like an abscess in appearance, and occasioning much suffering. After a little while I let out eighteen ounces of water, with a little muco-extractive matter, but no albumen, and the boy died about three months after the injury, at which time the cyst filled the whole side of the abdomen, and contained about five pints of fluid. I say I published the case as one of serous or aqueous encysted tumor connected with the kidney: on looking at the preparation, however, there might be some doubt whether this was not an example of the same kind of laceration of the pelvis of the kidney which Mr. Stanley has described, as there were two small communications, about the size of pins' heads, between the sac and the pelvis of the gland; but it differs most materially from his cases in the nature of the fluid, which, instead of being urinous in smell, and being found to contain urea, albumen, and other ingredients of urine, was almost pure water. The case being a remarkable one, I ventured to request Dr. Prout to examine the fluid, whose authority is quite decisive on a question connected with the urine; and he was kind enough to say: "The fluid from the cyst is serous, and, after a careful examination, I have not succeeded in detecting any thing urinary in it; at least, if it contains urine, the quantity, I am satisfied, must be very minute." Now, that urine should escape into cellular tissue, and produce none of its usual inflammatory and sloughing processes, and collect in a large cyst in immediate contact with the peritoneum for several weeks or months, is, by itself, a very extraordinary circumstance; but that urine should thus escape, and form for itself a large bag, containing five pints of fluid, in which so experienced a chemist as Dr. Prout should detect nothing urinary, appears incredible; and I am inclined, therefore, to adhere to the opinion I then formed, of its being a serous tumor, such as becomes developed in other parts of the body, and that the minute communication with the pelvis of the kidney was formed by an attempt to empty the cyst in that direction by ulceration, rather than by laceration after the blow. You can see the thin cyst, with the ureter running within it, and with a small third kidney formed of one lobule at a distance from the body of the gland. Still, however, it may possibly admit of doubt; and Mr. Stanley's description of his dissection seems to shew the possibility of an injury lacerating the pelvis or ureter.

It remains for me to speak of the treatment of injuries of the kidney. In the first place, with regard to the hæmaturia, it is seldom that its amount causes any alarm; but if the blood comes away in great quantities, you have the same resources as in other internal bleedings, to which alone you can look for checking hæmorrhage from the kidney which does not pass down with the urine. You can cause syncope by bleeding, and you can give styptics, which I have seen do much good in some cases of hæmaturia. Of these the best is lead; so that you can give three grains of the acetate with a quarter of a grain of opium every three or four hours for a time. In some cases, in which the lead failed, or alternately with it, I have seen the powdered galls stop the bleeding; this was the case in the man from whom this long coagulum of the shape of the ureter was withdrawn, who took fifteen or twenty grains every six or eight hours with much advantage. This medicine is, however, rather nauseous, and sometimes irritating to the stomach. You can also give a dessert spoonful of Ruspini's styptic every three or four hours. You might reasonably expect that, if these medicines have power in any case of hæmorrhage, they would be of especial service in hæmorrhage from the kidney, to which organ so large a quantity of blood is constantly passing. Another styptic — turpentine — which is useful in passive bleeding from the kidney, does not seem to be applicable to cases of injury in which inflammation is present. The presence of blood in the bladder does not usually occasion much trouble; it did so in the patient from whom this blood passed, and I was obliged to wash out the bladder to free it from coagula and enable the urine to escape, not after an accident indeed, but for fungus hæmatodes of the kidney. With a double catheter and warm water there is no difficulty in doing this, if you are obliged; at all events there can be no occasion to perform the high operation, as for lithotomy, which was done in one case by Mr. Copland Hutchinson, where blood lodged in the bladder. In most cases, however, you may disregard the amount of hæmorrhage, and treat the case as you would another in which there was no bleeding, and you will find it cease gradually in two or three days. I need not say that rest is necessary, and with this you must employ antiphlogistic remedies. You see that our patient now in the house has been cupped once, and has had leeches also once, and fomentations to the painful side; and such means are usually enough. In the case,

however, which I read to you, of recent suppuration, I was obliged to bleed as often as five times; cupping, however, is generally sufficient. Then you saw that I gave calomel and saline purgatives; and if you have occasion for purgatives in these cases, and particularly when the lithates abound, as they did here, the salts you select should be the vegetable ones, the potassio-tartrate of soda, or the tartrate of potash, so that the alkalies may at once pass to the kidney and neutralise the excess of acid. Then, again, you may give saline draughts, and add to this sometimes some colchicum if the inflammation does not easily yield.

After the first symptoms have subsided, you must next look carefully for remaining pain and weakness in the loins, and use counter-irritants; apply blisters, taking the precaution of using some muslin or tissue-paper under them, in order that the cantharides may not be absorbed and pass to the injured or inflamed kidney; and finally, if such pain and weakness continue long, you should insert a seton or an issue over the affected part, which you will do with the view of preventing the formation of abscess or other chronic disease of the kidney, and also to obviate another future mischief, which has been pointed out by Mr. Earle, in a paper in the Medico-Chirurgical Transactions, namely, the formation of calculi in the kidney; though it does not seem very probable that these bodies would be deposited unless the patient's urinary seeretion was otherwise disordered.

Such, then, is an account of the effects of injury of the kidney, which this case suggested to me as not unlikely to be useful, since I believe you will find little said about the subject.

In the short time that remains, I will draw your attention to some points in a case of hernia, on which I operated a few days ago, which is, in several particulars, very interesting.

Thomas Jackson, æt. 36, was admitted May 10th, at 1 in the afternoon, with an incarcerated scrotal hernia of the right side. He has had a rupture since he was six years old, and has always been able to reduce it himself whenever it came down. He has always worn a truss, which he left off a short time ago, as it was broken. The hernia came down yesterday evening, and he was not able to reduce it. The tumor is of considerable size, containing, by its sound, air and fluid; the external ring is lax, but the stricture is apparently very tight at the internal one. No symptoms, except a slight disposition to sickness, without any vomiting, and some slight tenderness about the inguinal canal. I tried, for a short time, to reduce the hernia in the out-patients' room, and then ordered him to be placed in a warm bath, and he was kept in for above half an hour; at 3 he was taken out of the bath, and I again tried the taxis without success, and the tumor was only a little less tense. Ice was then applied till near 6 P.M., when he complained of somewhat more pain from the ice, and the tumor was just as large and tense as before. A large injection was then given, and drawn off by a syringe, but without any effect upon the tumor. The pulse was 80, and no fresh symptom had come on. At 9 P.M. I again saw him; and finding quite as much hardness in the inguinal canal, and a little more pain, I then performed the operation. Our notes continue:—It was thought at first, by opening the external abdominal ring, that the tumor might be returned, sac and all; but this idea was abandoned, and the sac was opened, which contained only a little fluid, and then it was found that the tumor was composed of the cæcum, part of the colon, and the end of the ilium, with a large appendix vermiformis, which were all much distended with air. The stricture at the internal ring was freely divided, but nevertheless the bowel could not return till after manipulation for a considerable time, when the air having been at last pushed out of the intestine, the hernia went up. The intestine was quite healthy, and only slightly vascular. Two sutures were put in, and the parts lightly dressed. The patient lost no blood. At 10 o'clock, the notes add, he was relieved by the operation, and does not complain of pain, except a little in the bowels—near the wound in fact. Pulse soft, 68, with some intermission, and the tongue was rather tremulous.

Now in considering this case, the first point which may have struck you is the small extent of symptoms, which justified me, as I imagine, in operating: the intestine was scarcely strangulated. It might have been said by some that it was in a state of incarceration verging on strangulation; there was no sickness, no tenderness of abdomen, no alteration of pulse, no pain or tenderness of the whole tumor; there was none of the severity of symptoms such as would have been looked for when I was a student; still less was there redness and inflammation of the skin; and I actually remember a few years ago a report being published from the practice of a surgeon of repute, of a case as somewhat remarkable, because the operation was performed before there was any external sign of inflammation! I operated because in the absence of such further signs of strangulation the hernia contained intestine, and the inguinal canal was of considerable length, and very firm and hard, and the tenderness and pain of this part, slight as they were, compared with many cases, were on the increase.

With so firm a compression in the canal, not allowing any impulse or coughing to pass through, though the diameter of the neck of the tumor was considerable, you may generally be certain that you will not reduce it, and I strongly recommend you to operate before severe symptoms come on, as the safest plan for your patient, rather than wait till inflammation of the intestine has already commenced, which was always done a few years ago.

A second point to be noticed in this case is my abandoning my original intention of dividing the parts external to the sac without opening the peritoneum. My reason was this: there is one disadvantage attending this procedure in inguinal hernia, which I am sure has not been sufficiently dwelt upon: if you divide the tendon of the external abdominal muscle, and the lower borders of the two internal muscles, and the fasciæ, sufficiently to allow of the sac swelling out so as to shew you that the pressure which causes the stricture has been removed, you take away a great deal of the protection given to the abdomen after the common operation by these parts; the patient is sure to have a large hernia afterwards, and requires a large truss, which can still only with difficulty prevent the protrusion. If, on the other hand, the sac is opened lower down, the internal ring and neck of the sac can be divided as freely as you wish, while enough is left to cover the canal afterwards, and enable a common truss to keep up the hernia. On exposing the external ring in this case I found that the tendon and other parts were much spread out, giving great length to the canal, and I did not therefore proceed in this way, but opened the sac below the external ring in the common way. I believe, indeed, that I should certainly have failed in reducing the hernia, if I had gone on as I first intended, even with a very large incision: I have tried it, and seen it done by others several times in old inguinal herniæ, without success, although the parts have been so fully divided that the neck of the sac has quite bulged out on the pressure being removed; and yet the stricture remained, because it was formed by internal projection of the neck of the sac; besides which, there is the chance of the stricture being actually situated in the omentum within the sac; of which we have had three instances, I think, in the last twelve months. I say nothing at present of femoral hernia, and recent protrusions at any opening, but I think in old inguinal hernia the operation of opening the sac below the external ring is generally the best.

This case was in the third place remarkable from the nature of the contents, which consisted of the colon, cœcum, and adjacent ilium, with several inches of an appendix as large as a small intestine. There have been several instances in the hospital lately, of strangulation where the colon has been found in the sac, and I have repeatedly had to operate in such cases. In all of these the reduction is very difficult, although the opening is large, and in many persons cannot be effected at all. The colon coming down brings with it its cellular connection to the parts behind; it slides down as it were, and is as much connected with the scrotum as it is in the loins to the parts there situated; the operation is therefore difficult, and great care is necessary not to open the bowel, which has half or two-thirds of its circumference without any sac at all. I have found only a little portion of sac on the upper and inner part of the tumors (where you must always try to open it), and the great bulk of the protruding part is attached to the vessels and cellular tissue, so that you cannot reduce it, and must leave it in its place, having divided the stricture, in hopes that it may go up by degrees in the same way as it descended. This was not, however, the cause of difficulty which I experienced in the reduction in this case, for the great intestine was protruded without any attachment; but what was remarkable, the great length of colon here found with the cœcum was as loose and free within the sac as small intestine commonly is. Whenever the cœcum is protruded there is a greater proportion of solid matter than there commonly is with small intestine; the valve of the colon and appendix vermiformis are very thick, and from the connexion which the ascending colon has within the abdomen, it is impossible to push up the great bowel first, but you must begin with the ilium and the valve, and make the cœcum and colon revolve, as it were, towards the centre of the cavity, as they cannot be pushed up straight into the abdomen. This was one cause of difficulty in this case, and another arose from the quantity of air contained in the cœcum, which drew down again what I got up. I could not, of course, squeeze up the air through the valve, and something or other prevented its passing upwards in the colon for a long while; when I did finally press the air upwards, the reduction was easily effected; with small intestine you can easily push up the air in both directions.

In the next place, as to the after treatment, there were here two dangers of opposite character to be guarded against, and what did good for one of these would make the risk of the other greater. In all cases of strangulated hernia you have necessarily to look carefully for the signs of inflammation of the peritoneum produced by the stricture of the protruding part; but besides this it was evident from the tremulousness of the man's tongue, and intermission of his pulse,

and from his acknowledgment when he was questioned in consequence of our observation on these signs, that this patient, a groom in Tattersall's yard, close to us, had led an intemperate life, and was just a fit subject for delirium tremens. We were therefore on our guard, and prepared to treat the earliest appearnces of of it; but the inflammation was the first danger, and fortunately for the patient no more depletion was necessary than that arising from some leeches to the part of the abdomen which became painful the day after the operation. I also gave him a grain and half of opium, and three grains of calomel, directly after the operation, and smaller doses were given him twice in the next 24 hours to obviate the inflammation present. You saw, however, that abstinence from his usual potations produced the effect we anticipated, and 48 hours after the operation he became furiously delirious; the attack coming on rather suddenly. Repeated doses of laudanum during the night had the effect, however, of quieting him, and setting him to sleep, and as the bowels were not then so open as on the previous day, I directed a turpentine injection to be administered. At my visit yesterday, the 13th, you saw that the opium taken in the night had so completely subdued him that the narcotism was even more than desirable, for he did not breathe more than eight times in a minute; it was striking, while he was in this state, to observe how thoroughly a few drops of water sprinkled on his face roused him to perfect consciousness, although I shook him in vain, even with some degree of roughness. To-day (the 14th), you see that he is going on quite well, free both from delirium and inflammation. Had it not been for the importance of the part affected, had it been the arm or leg for instance, I should have given him more stimulants and less narcotics; I did, however, order him some beef tea yesterday, and have directed a mutton chop to be given to-day.

The last circumstance I will allude to in the treatment of this case is the inflammation of the sac, which is not uncommon after the operation, particularly in those who have been accustomed to drinking, like our patient. When on the second or third day you find your patient become restless and irritable, and feverish, and his pulse varies in frequency, but yet is probably not so sharp and incompressible as in peritonitis (indeed it is sometimes soft in the circumstances I am going to allude to), and if the patient is sick, and the abdomen is flatulent, and above all, if he has shivering or distinct rigor, and there is a disposition to perspire after he has been hot and flushed, you are not to conclude at once that he has inflammation of the abdomen, but examine the wound carefully, and perhaps you will see some redness of the edges, or if they have united perfectly, and are not red, yet you can feel a puffiness, and the patient has a good deal of tenderness: put a probe then between the lips of the incision, and a drop of dark pus will escape, if it has not already shown itself. In these instances you must immediately separate a part or the whole of the adhesions to let out the pus, and prevent the extension of cellular inflammation, which may otherwise go on to a great extent round the hip or down the thigh, or it may spread up below the muscles in contact with the peritoneum, which membrane thus becomes secondarily affected, though it may have escaped the effects of the strangulation. You saw then that I separated the whole of the adhesions on the second day (the 12th), before the delirium began, and the consequence of this was that the redness immediately ceased, and the wound, which was foul and sloughy, is already cleaning to-day (the 14th), and the man is going on well.

[There was in this case some return of pain in the abdomen on the day after the lecture was given, but it was immediately relieved by a few more leeches, and the patient is fast recovering (May 21st), with a diet of meat and porter.]

CASES OF

STRICTURE OF THE URETHRA.

By William Coulson,
Surgeon to the Magdalen Hospital, &c.

(For the London Medical Gazette.)

I have drawn up the following cases of stricture of the urethra* in the hope that a detail of the difficulties which they presented, and the means by which these difficulties were overcome, may not be unacceptable to the profession.

Case I.—J. W. Esq., (solicitor), æt 42, had been under my care at different times during the last seven years with stricture of the urethra. I had tried in vain the common and armed bougie; he had also at my request consulted one of the most eminent surgeons of the metropolis, but no instrument could be passed through the stricture. Under these circumstances, Mr. W. had made up his mind to try no further means. On being informed of some cases much resembling his own, in which the lancetted stilette had been tried with success, he resolved to come to town to have the instrument used on himself.

His symptoms at this time were a con-

* These cases were read before the Hunterian Society, April 17, 1844.

stant desire to void urine, attended with great pain and difficulty. The water sometimes flowed involuntarily, and when aware that it was coming he had no power to stop it. A few drops of urine generally remained in the passage, and these he was obliged to squeeze out by pressing on the perineum, or he suffered the greatest agony. There was considerable irritation of the glans penis, heat in the rectum, and pain in the back. His general health was pretty good.

Aug. 8th, 1842.—I examined the urethra, and found an impermeable stricture at the distance of five inches from the external orifice. I introduced the straight urethral perforator, and divided the stricture to the extent of half an inch. I then introduced a small wax bougie into the divided part, and told the patient to withdraw it when he felt desire to pass his water. The patient suffered very little pain, and lost only a few drops of blood. The following is his own account.

Aug. 9th.—"I felt tolerably comfortable all night. I kept in the bougie about three hours, and afterwards made water with tolerable freedom, though immediately afterwards I experienced great pain at the end of the penis for a short time."

In the afternoon a wax bougie could be passed down the urethra five inches and a half, but not through the whole extent of the stricture. A slightly curved perforator was introduced by Mr. Stafford, and the remainder of the stricture at once divided. A No. 2 elastic gum catheter was then introduced into the bladder, and retained there all night.

Aug. 10th.—The No. 2 catheter was taken out, and replaced by a No. 4 gum-elastic one, which passed easily. Mr. W. had a shivering fit this morning, which was followed by feverish excitement. An opiate was administered as soon as the shivering came on, the patient having been provided with it in the event of this occurring: some aperient medicine was ordered to be taken in four hours: there was no local pain nor uneasiness.

Aug. 11th.—No. 4 catheter was taken out to-day, and replaced by No. 6. Has no symptom of constitutional disturbance.

Aug. 12th.—No. 6 was replaced by No. 8.

Aug. 13th.—I passed No. 11 gum-elastic catheter without much difficulty. In the evening Mr. W. withdrew the catheter according to my wish; he passed a very good night, but on the next morning when dressing to go to church he was seized with pain in the region of the bladder, frequent desire to pass urine, and the urine was bloody. By rest and the exhibition of small doses of morphia these symptoms subsided towards evening. The severe symptoms which occurred on this day are, I think, to be attributed to the too sudden increase in the size of the instrument last used.

Aug. 17th.—Since the 13th no instrument had been passed; the stream of urine is large, the urine is quite clear, and passed without pain. I introduced a No. 11 metallic bougie with ease, and retained it in the urethra for an hour. I instructed Mr. W. to introduce a bougie of this size for himself, and on the 25th of August took my leave of him, strongly advising him to pass the bougie once a week.

I received a letter from Mr. W. the latter part of last month, stating, that so great is the change, that he never remembers from the earliest days of childhood to have experienced the comfort and relief he now enjoys. He passes regularly once a week or oftener a No. 11 metallic bougie, which he can do with ease, and retains it in the urethra for upwards of half an hour upon each introduction.

Case II.—Mr. E. æt. 57, consulted me at my house, Sept. 5th, 1842, for difficulty in passing his water. About six months ago he contracted a gonorrhœa, and three months afterwards he observed a slight impediment in making water; this varied considerably, being worse some days than others. Within the last month these symptoms were much aggravated; his water passed in a small divided stream, and at times would even dribble away. Not being able to pass the smallest size bougie further than 5½ inches, I at once introduced a curved lancetted stilette, and after three incisions succeeded in introducing No. 2 gum-elastic catheter into the bladder: no hæmorrhage took place, and the division of the stricture gave him very little pain. Mr. Markwick, my pupil, accompanied the patient in a cab to his residence a distance of nearly two miles. On his arrival at home, he went to bed, and was ordered to take a dose of morphia. The catheter was retained in the bladder.

Sept. 6th.—Feels tolerably easy. The instrument was not withdrawn.

Continue the morphia, if necessary.

7th.—I passed No. 4 catheter into the bladder with ease.

8th.—Has passed a bad night, and has had considerable fever, and complains of pain along the urethra. I withdrew the instrument, which gave him immediate relief. Bowels well opened.

Ordered a dose of morphia to be taken at once, and to be repeated, if necessary, at bed-time.

After this time no instrument was retained in the urethra, but at the interval of four days I passed, four times, No. 8 wax bougie with ease.

Case III.—I was requested by Mr. Austin, surgeon, of Red Lion Street, to see a patient who had been labouring under stricture for some years, and which had been

recently much aggravated by an attack of gonorrhœa. The urine came away in the day either in drops or in a very small stream, and at night it flowed involuntarily, to the great distress and annoyance of the patient. On examining the urethra, I found a stricture six inches and a half distance from the external orifice. I tried, on several occasions, both large and small instruments, but never succeeded in passing one through the stricture.

I recommended the use of the lancetted stilette, and on the 14th October passed No. 6 curved stilette down to the stricture, and, after two divisions, was able to introduce No. 2 gum elastic catheter. The division of the stricture was attended with very little pain, and a few drops only of blood were lost. The catheter was retained in the bladder; on the following day it slipped out, but was again introduced.

Sept. 19th.—No. 2 gum elastic catheter was withdrawn, but a larger size could not at first be introduced. Here I may observe that no discharge had taken place from the urethra, an usual occurrence whilst the catheter is retained in the urethra, if the process of dilatation is going on.

The patient was extremely anxious for another division of the stricture, and I had actually introduced the lancetted stilette into the urethra for the purpose, but on holding the point of the instrument firmly against the stricture, it passed through the obstruction without the aid of the lancet. I then passed No. 6 silver catheter, which was retained in the bladder forty-eight hours.

21st.—No. 6 silver catheter was withdrawn, and easily replaced by No. 9 silver catheter. This instrument was only kept in the urethra for two hours.

The patient experienced very little local uneasiness, and no constitutional symptom whatever, from the treatment of the stricture, although he had been confined to his bed ten days prior, from irritation of the bladder and kidneys, caused either by cold or the local affection of the urethra.

It usually happens that a strong desire to pass urine, attended with violent straining efforts, and inability to pass more than a few drops, with a sense of fulness in the lower part of the abdomen, cause the greatest suffering to patients labouring under impermeable stricture, but in the last and first cases related incontinence of urine was the most distressing symptom.

Case IV.—Sept. 3d, 1842, I was requested by Mr. Barringer, surgeon, of St. John Street, to see a gentleman, æt. 57, who had great difficulty in passing his water. He stated that being on a trial about eighteen years ago, he was obliged to retain his water for a considerable time, and on attempting to make water afterwards he experienced very great difficulty and pain, from which time he was frequently obliged to pass an instrument to evacuate the bladder, as on the accession of cold, or derangement of his health, the urine could only be passed with very great difficulty. Within the last two or three months he had become much worse, and at the present time he makes water drop by drop, and with great pain: there is a hardened mass in the perineum extending from the scrotum to near the anus, and of the size of a man's fist: on examination per anum the prostate is found to be much enlarged. The smallest sized bougie could not be passed along the urethra further than $5\frac{1}{2}$ inches.

Sept. 5th.—I introduced the curved lancetted stilette, and made two incisions, but no progress was made through the hardened mass; hæmorrhage, to the extent of five or six ounces, took place. A dose of morphia was given, and cold cloths applied to the parts.

6th.—I introduced the instrument again, and, after making three incisions, succeeded in getting down to about seven inches. No. 4 catheter was introduced, and pressure was made with it for about an hour, when it reached $8\frac{1}{4}$ inches, and was then retained for some hours, during which time the urine passed through it. Very great force was required to withdraw the instrument, and it was much bent. The morphium was continued every four hours.

7th.—Passes his water in a small stream, and with less pain. I again introduced the lancetted stilette, and succeeded in getting to the extent of eight inches, but so much force was required to withdraw the instrument that it broke, the broken portions of the instrument being kept together by means of the wire attached to the lancet: the patient observed, that no vice could hold the instrument so firmly as it was held by his stricture.

The morphia to be continued.

8th.—Has passed a bad night, and had considerable fever; there is no amelioration in the stream. I endeavoured to pass a small bougie, but could not succeed. The morphium to be continued. Considerable irritation succeeded the last division of the hardened mass. I advised that no more trials should be made for the present with the lancetted stilette, but that we should wait to see if suppuration would take place. About two days after this, fluctuation was felt in the perineum at the posterior part of the hardened mass. I opened this part, and a small quantity of purulent and urinary fluid escaped. This discharge reduced, in a slight degree, the swelling in the perineum, and relieved, for a short time, the symptoms. After the lapse of three weeks the patient was again anxious for the use of the lancetted

stilette, and I advised him to see Mr. Stafford.

29th.—Mr. S. introduced the curved stilette to the extent of five inches, and made several incisions, but could make no progress through the hardened mass. The sensation produced by the propulsion of the lancet through this structure resembled the cutting of intervertebral substance. No hæmorrhage ensued.

Oct. 2d. — Passed a restless night: his symptoms became worse: greater difficulty in making water; pain in the region of the bladder, and considerable accession of fever.

3d.—Nearly complete retention had now ensued; only a few drops of urine could be passed, and these with great pain. Under these circumstances I determined on cutting down on this hardened mass from the perineum. The patient being placed in the same situation as in the operation for stone, a small staff was introduced into the urethra as far as it could go, which was to the extent of five inches: an incision was made from the inferior part of the scrotum to the extent of the mass, which reached to the sphincter ani: the staff was depressed, and pushed through the divided mass, the point being near to the membranous part of the urethra. There was considerable difficulty in getting beyond this point; but by means of a long blunt-pointed lithotomy knife, the point being kept in the groove whilst the staff was pushed towards the bladder, and the rectum being guarded by the finger, the remainder of the stricture was divided, and a No. 5 silver catheter introduced into the bladder.

5th.—The patient felt greatly relieved after the operation; but diarrhœa came on, which lasted some days, and was only checked with great difficulty by large doses of camphor and opium: this, together with his previous sufferings, reduced him very much. An abscess formed above the pubes, and another on the inside of the thigh, both of which were opened, and discharged large quantities of pus.

14th.—No. 5 catheter, which had been retained in the urethra nine days, was removed, and replaced by No. 7.

18th.—No. 7 was removed, and replaced by No. 8, which was kept in for three days. Since this time the instrument has not been kept in, but a No. 10 silver catheter is passed every three or four days.

The wound in the perineum is now (November) quite healed, the patient makes water in a full stream, and his general health and strength are restored.

Case V.—Mr. D., aged 47, applied to me for an affection of the urethra. For the last five or six months there had been a copious discharge from the urethra, scalding sensation in making water, with painful erections. The urine dribbled from him, or came away in a very fine stream, and the difficulty of passing it had of late very much increased. His general health was considerably deranged; pulse weak, countenance pale and emaciated, tongue white, and occasional shivering fits. The patient had, for the last three or four months, been under the care of a surgeon, who frequently introduced a bougie for him, and he had frequently introduced one himself, but his symptoms had not at all amended. Finding his health so much deranged, I postponed the passing of the bougie, and gave him some quinine, by the use of which his health was much improved. After a week or two I tried a small bougie, which passed with great ease. On withdrawing it, however, I found the end of the bougie smeared with fæces. I pointed this out to the patient, and informed him that the instrument had not passed into the bladder, but into the rectum. He then informed me that he had often observed the same appearance. I then reintroduced a bougie, and putting the fore finger of the left hand up the rectum, felt the end of the bougie: the opening was small and valvular, for no urine passed through the rectum, nor any fæces through the urethra. He was seen by an eminent surgeon, with me, who could pass no instrument through the stricture; and, without great care, it passed through the opening into the rectum. We determined that a full-sized armed bougie should be introduced once in four or five days, and that the point of the instrument should be kept towards the upper surface of the urethra, so as to avoid its entering into the rectum. By this plan of treatment the patient recovered after four or five applications, and continues to this time quite well.

REPORT
ON THE
ROYAL MATERNITY CHARITY.

By F. H. Ramsbotham, M.D.

(For the London Medical Gazette.)

[Continued from page 226.]

During the year 1835, there were delivered in the Eastern District of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham,—

2311 *women—Of which cases,*

16 were twins—about one in every 144½ cases: of these, in 8 cases both heads presented; in 4 the presentation was head and breech or inferior extremities; in 3 both breech or inferior extremities; and in one case the

breech and shoulder presented. In 3 of these cases both children were males; in 6 both were females; and in 7 they were of different sexes.

1229 children were males.

1098 children were females.

2437 were presentations of some part of the head: of these 8 were face-presentations—about one in every 291 births; and one was an ear presentation.

57 were presentations of the breech, or some part of the inferior extremities—about one in every 41 births; of these 11 were twins.

7 were transverse presentations—about one in every 332½ births; all of the shoulder, or some part of the upper extremities. Three of the children were born alive; they were all except one delivered by "turning;" in that case decapitation was performed. The membranes had given way 48 hours before I was called; but there had been very little uterine action till within the last two or three hours, and the presentation had not been detected. I found the right hand external, and the uterus contracted forcibly round the child's body: with difficulty I brought down a foot, but could not get the body to revolve. As putrefaction had commenced, I passed my father's hook round the neck, and with much trouble decapitated the child; the body was immediately extracted, and the head and placenta soon followed. At the time the operation was commenced the child's body lay entirely above the brim of the pelvis, which was narrowed in its conjugate diameter. Soon after her delivery the woman was seized with a violent rigor; symptoms of uterine inflammation supervened, and she died on the third day. Though I was as careful as I could be in the use of my instrument, I feared the uterus was injured. Another woman died on the third day after delivery by "turning:" the operation was performed by one of the district surgeons, and I have no history of the case.

In 3 the placenta was implanted over the os uteri—about one in every 776 cases; in two the mouth was entirely, and in one partially, covered by the mass; two of these patients were delivered by "turning," the head presenting; in the other case the breech presented: all did well: two of the children were born dead.

7 were complicated with alarming accidental hæmorrhage before delivery, *not* the result of placental presentation; about one in every 330 cases. In all these cases the hæmorrhage was arrested or materially diminished after the membranes were ruptured, and the children were born naturally—6 of them still; one alive. One of the women died from the effects of loss of blood on the 11th day after delivery.

In 8 the placenta was retained within the uterus, either by irregular contraction or atony of the uterine fibres, or by morbid adhesion between the uterine and placental surfaces, requiring the introduction of the hand for its removal—about one in every 289 cases: with all there was more or less of hæmorrhage; one was premature: all the women did well.

5 were complicated with alarming hæmorrhage after the natural expulsion of the placenta—about 1 in every 462 cases: of these 1 was premature, a breech presentation; another was a twin case. All the women did well.

1 was delivered by craniotomy: it was a primary labour, and there was a narrow pelvis.

3 were delivered by the forceps; 1 by the long, the others by the short instrument—about 1 in every 776 cases. In the former case the child was dead; in the latter both were living. All the women recovered. They were all primary labours.

4 were complicated with puerperal convulsions—about 1 in every 578 cases. The attack occurred, in all these cases, during labour. All the women were delivered naturally; they were all benefitted by bleeding and purging. In 1 case delivery put a stop to the paroxysms; in 3 they continued for some time after. One woman had more than fifty fits, two only happening before delivery. 3 of the children were expelled dead; one living. All the women recovered.

In one case premature labour was induced, in consequence of the woman possessing a small pelvis. She took the ergot for three days, at the end of which time the os uteri was dilated to the size of a shilling, and softened: as the head was discovered to be presenting, I then ruptured the membranes: pains came on forty hours after, and she was delivered of a living child in fifty-five hours from the time the waters were discharged.

7 women died, either from puerperal causes or within the puerperal month—being 1 in about every 330 cases.

2241 children were born living.

86 children were born dead—being 1 in about every 27 births.

Of the Deaths,—

1 was eleven days after labour, from the effects of hæmorrhage; there had been a draining of blood for some weeks previously.

2 after delivery under shoulder presentation, both on the third day; one after the operation of version had been performed, and one from hysteritis after decapitation.

1 on the eighth day after labour: she was attacked with apoplexy, originating in violent mental agitation, six days after her labour, and died in less than forty-eight hours.

2 from malignant puerperal fever, at that time prevalent; one on the ninth, the other on the fifteenth day. They were both attended by the same midwife, who also, during the same month, lost two private patients in the same disease.

1 from peritonitis, thirty-one days after delivery.

Of the Still-born Children,—

26 were premature.

6 were putrid, at full time, or nearly so.

16 were breech presentations, at full time, or nearly so.

4 were transverse presentations.

With 5 the funis prolapsed: four by the side of the head, and one by the breech.

1 was delivered by craniotomy.

1 by the forceps.

2 under placental presentation.

6 were delivered after violent accidental hæmorrhage.

3 under lingering labour.

3 under convulsions.

2 were acephalous.

11 were at full time, not putrid, head presentations, not delivered by art.

In this year district-surgeons were appointed to the Charity, to whom the midwives generally apply in the first instance, when they require assistance. Many of the cases of difficulty, therefore, which happened subsequently to this date, I have not myself seen; but as I am in constant communication with these gentlemen, and as the midwives' books are laid before me every month, I can equally vouch for the correctness of the statements.

CONTRIBUTIONS TO THE PHYSIOLOGY OF THE HUMAN OVARY.

By Charles Ritchie, M.D. Glasgow.

[Continued from p. 142.]

Summary.

1. The fallopian tubes of the infant, and of the child before puberty, are perfect in their structure, although their patency is more or less obstructed at birth by the presence in them and in the uterus of a tenacious glue-coloured mucus; and immediately before the establishment of menstruation, and throughout adult life, they are occupied, and have their uterine extremities in particular distended by a cream-looking fluid similar in appearance to the ordinary vaginal secretion, and which, as observed by the microscope, consists of innumerable very minute globules aggregated into masses usually of an oval form, and possessing a specific character different from the globules either of blood or of pus. Part I., Sect. I., 1, 2, 3, 4, 5; Sect. II., 5; Part II., Sect. I., 1.

2. The ovaries of new-born infants and children are occupied, sometimes numerously, by Graafian vesicles or ovisacs, which are highly vascular as early as the sixth year, and vary in size from the bulk of a coriander seed to that of a small raisin, in the fourteenth year, at which time, also, they are filled with their usual transparent granular fluid; their contained ova can be detected, and their coats are so elastic, that their contents, on their rupture, may be projected to at least twelve inches: the existence of menstruation not being essential, therefore, to these conditions, either as a cause of them or as an effect, and the possibility, even at this age, should rupture of the follicles occur, of their contained ova being conveyed to the uterus along the fallopian tubes, kept patent by their peculiar secretion, will be admitted. Part I., Sect. I., 1, 2, 3, 4, 5, 6, 7, 8, 9.

3. The Graafian vesicles contained in the ovaries prior to menstruation are found, as they also are in every other period of life, in continual progression towards the circumference of the glands, which they penetrate, discharging themselves by circular-shaped

capillary-sized pores or openings in the peritoneal coat (Part I., Sect. I., 2, 3, 4, 5, 6, 7, 10); the presence of the catamenia being thus no indispensable prerequisite to their rupture.

4. The establishment of menstruation does not necessarily give rise to any immediate modification in the manner in which the ovisacs are discharged, or in the subsequent changes which these bodies undergo; but in some cases the conditions which obtain in the period before puberty are extended for a time, like that of menstruation. P. I., S. II., 1, 2.

5. The ovisacs of the healthy menstruating female are, as a general rule, larger, and more injected with red vessels, than they are previous to the setting up of that condition; but such change may have interposed a transition state in which the appearances peculiar to both, or the small-sized vesicles of the interior of the ovaries, the miliary copper-coloured maculæ, the numerous but delicate vesicular elevations and punctiform openings of the surface, of the infantile period, and the pisiform, turgid vesicles, the organized cysts, and the angular or linear cicatrices of the menstruating, are intermixed. P. I., S. II., 3.

6. Menstruation gives rise to a congested state of the uterine vessels, manifested by a redness and increased vascularity of the vagina, and by the production on the internal surface of the cavity of the uterus of a mesh-work of deciduous villous vessels, which may remain for at least two weeks. P. I. S. II., 1, 2, 3, 4, 5; P. II., S. VII. passim.

7. The progression of the Graafian follicles, or ovisacs, towards the surface of the ovaries, their appearance under the peritoneal coat as copper-coloured macules, the absorption of that membrane, and of their own tunics, and the occurrence of a solution of their continuity at the point at which they unite, take place in the menstrual, precisely as in the anti-menstrual life; but in the former the vesicles are increased in bulk, vascularity, and organization, so that in their rupture there is generally a greater lesion of the peritoneum, and, after the escape of the ovulum and granular fluid, a larger effusion of blood into the vesicular cavity, and more remarkable subsequent changes in the coats of the ruptured cysts than in the non-menstrual state. P. I., S. II.; P. II., S. VII.

8. The shape assumed by the ovisacs is circular, elliptical, or triangular, according very much as they occupy the body of the ovary, its margins, or the central point of its free edge; and the cicatrices left by their discharge are often irregularly linear or circular, according to the same circumstances—passim.

9. The ovisacs of the human female do not require the establishment or presence of menstruation for their development or rupture. Vesicles of adult size may exist and be discharged about the age of puberty, as also at other periods of life, independently of menstruation; and this state may be present in its normal form for at least eight consecutive periods, without a vesicle being ruptured, unless after the manner, and with the phenomena, which occur in childhood. P. I., S. I. 6, 7, 8, 9; S. II., 1, 2; S. III. IV. V.; P. II., passim.

10. The only circumstances essential to the discharge of ova are the rise of the vesicles which contain them to the surface, and the gradual thinning of the ovarian peritoneum, and of the coats of the ovisacs at their point of union: and although, from the augmented circulation of blood in the uterus at the menstrual period, it is possible that the rupture of vesicles which are thus prepared may happen more frequently at that than at any other time, there is yet no reason to suppose that it does so then exclusively, or that it may not take place during the intervals, menstruation being often present without any such rupture. P. I., S. II., 7, 8; S. III., 1, 2; S. IV., 1, 2, 4; S. V., 1, 2; P. II., S. III. 1, 4: S. V. 4, 5; S. VI., 4, 7, 8; S. VIII., 1, 7, 11; S. VIII., 1, 5.

11. The appearances presented by the ovaries, Graafian vesicles, and by the blood which is contained in the latter subsequent to their rupture, vary according to the time at which they are examined, and the absorbing power of the individual.

12. In cases of the recent evacuation of an ovisac the peritoneal coat of the ovary is occupied by a jagged slit or opening, having a florid vascular areola; in those of longer standing the opening is covered over, with the exception of a minute circular foramen in the

centre, or, where the slit has been of great length, of two such openings, with new tissue, surrounded by a claret-coloured margin; and in those still more ancient, the whole is healed up into a cicatrice, which is more or less superficial, and free from discoloration according to its age.

13. With respect to the blood which is generally contained in the ruptured vesicles, it is seen at first as a florid coagulum, next having its centre only scarlet-coloured, and its periphery more or less black, and perhaps furrowed; frequently the clot has a gamboge colour, from the decomposition, or has become pale from the absorption of its red globules; and lastly, the clot is found in different stages of absorption; but it sometimes also happens, and that indifferently in every variety of the uterine state, that the ruptured follicles are found empty, or containing only an aqueous fluid.

14. The coats of the ruptured ovisacs have been found in four different general conditions, apparently dependent on the relative degree of organization, and each class presenting, also, modifications of their respective characteristics, proceeding partly from the same cause, and partly, also, from changes connected with the period of their progress in which they were examined.

15. The first class was distinguished by the attenuated state of the coats of the ruptured ovisac, and by the total absence of any organic changes in these different from their condition previous to their dicsharge; the only alterations observable being,

A. The mechanical dying of their coats of an inky black colour, proceeding from their contact with their contained decomposed blood, and which bodies have in the descriptions been denominated corpora nigra. P. I., S. II., I, 7; S. IV., 4; S. V., 2; P. II., S. I., 1, 4; S. II., 3; S. III., 4; S. IV., 1, 3; S. V. 3, 5; S. VII., 2; S. VIII., 1, 5; S. IX., 1, 3.

B. The dying of their coats of a yellow tint, from their enclosed clot of blood having become converted into a rust-coloured pigment, not unlike some of the denser sputa of acute pneumonia. These I have taken the liberty of calling, in the grammatical sense, corpora lutea, omitting at the same time the use of this term in its ordinary scientific meaning. P. I., S. II., 9, 10; S. IV., 5, 6; P. II., S. V., 1, 3; S. VII., 1; S. VIII., 4.

This first class of ruptured ovisacs was found indifferently in all ages and states subsequent to puberty.

16. The second general class of ruptured vesicles was characterized, in addition to the presence of blood within their cavities, or, sometimes, when this had been either partially or entirely absorbed, of a black or of a yellowish stain, by organic changes in their coats, consisting, progressively, of an increased vascularity, a thickening, a whitening of the colour, and, finally, a corrugation of their tissue, and was observed,—

A. Under the form of soft white bodies of a yellowish, fatty aspect, having the outer coat much thickened, while their inner remained as a delicate diaphanous pellicle. P. I., S. II., 10; S. IV., 1, 3, 5; S. V., 2, 4; P. II., S. IV., 5; S. IX., 2.

B. As dense white bodies of a whitish, shining, firm structure, their inner coat being the seat of these changes, and their outer adhering loosely as a transparent, pellicular layer. P. I., S. IV., 3, 6; P. II., S. III., 4; S. IV., 1; S. V., 4; S. VI., 7, 8, 9; S. IX., 1, 4.

A. The discharged ovisacs which constituted the soft white bodies were seen—

1st. At a very early period after their discharge, their walls distended with a coagulum, and painted with turgid vessels, but not being divisible into layers. P. I., S. II., 4, et passim.

2d. In a similar state, except that the inner membrane had a swollen, puffy look, and from the looseness of its adhesions to the more external layer, could be easily gathered into folds. P. II., S. VII., 2, et passim.

3d. At a period so advanced that the clot had become uniformly black and solid, the inner layer was easily separated from the more external, which was also thickened and become of a yellowish colour, having a resemblance to the walls of an artery. P. I., S. II., 5, et passim.

4th. At a point still more advanced, the outer, thickened, yellowish coat, had become corrugated into wrinkles or folds projecting into the cavity and covered by the soft inner layer, sometimes dyed yellow or black, as at 15 A. B. P. II., S. VII., 3.

5th. At what appeared to be yet a more lengthened period, the cysts were converted into yellowish-white, and generally globular bodies, more or less fissured from their contraction, and sometimes in process of absorption, having a granular looking structure, and seldom being divisible into laminæ by simple dissection. P. I., S. V., 2, 4; P. II., S. VII., 9.

B. The dense white bodies were seen—

1st. With inner layer still vascular, but thickened. P. II., S. VII., 12.

2d. With vessels of inner coat nearly obliterated, and it converted into a tenacious membrane of the thickness of writing paper. P. II., S. VII., 11, or S. V., 4.

3d. With inner layer of ovisac as a thick, opaque, deeply wrinkled or corrugated, and rocky cyst, or, sometimes, partially diaphanous, and of a shining, pearly aspect, and very white colour, most generally empty, but sometimes containing a yellow, or greenish, transparent fluid, or a clot of blood, either unchanged, or converted into a yellow or black pigment (as at 15 A. B.), the outer layer of the sac being a mere film or pellicle. P. I., S. IV., 6.

17. These white bodies (corpora albida) were found in every variety of uterine condition subsequent to the establishment of menstruation, but never before it, and the dense kind especially were persistent for a long period.

18. White bodies, as such, had no necessary connexion with the gravid condition, but occasionally they were, especially the dense variety (the corpora lutea of Baer), the only specialty observable in the ovaries of the puerperal female some time after delivery.

[To be continued.]

NEW APPLICATION OF THE REFLECTING PRISM.

To the Editor of the Medical Gazette.

Sir,

Through the medium of your widely circulated journal, I take the liberty of bringing under the notice of the profession a new application of the principle of illumination derived from prismatic reflection, to the examination of disease in the dark passages connected with the open cavities of the body.

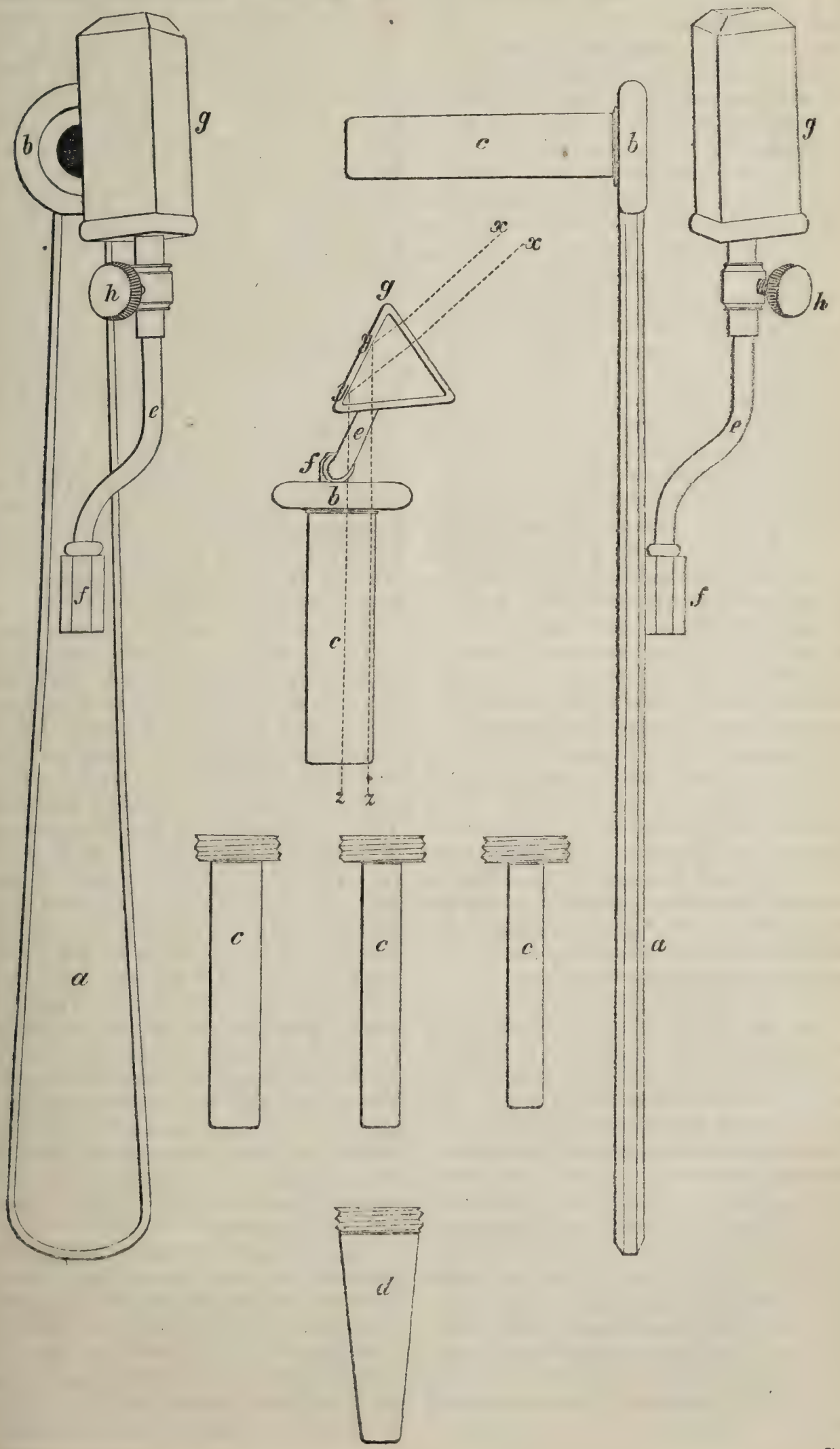
As a description of a mechanical invention, a communication* was made by me on the subject to the Royal Scottish Society of Arts last week; but I desire to take the earliest opportunity of submitting the contrivance to the professional public, in the hope that it may be found to afford assistance in the investigation, and facilities in the appropriate treatment, of several important classes of diseases, which, by their situation, are naturally removed from view, and from that intelligent cognizance which is requisite to a correct pathology, the only basis for truly scientific treatment in the living body; and I confidently hope that the utility of the invention will be further verified by the experience of the profession at a distance, as it has already been by those of my brethren here, who have had an opportunity of observing for themselves.

It may be proper to remark, that I, in common with many others, have often felt the defectiveness of our professional resources for affording light to permit an examination of the nature of a variety of darkly seated affections, which are daily coming under the notice of the practitioner. My attention was specially awakened to this subject by the difficulties attending a case which came under my notice in November last; and I thereafter directed my attention to the devising some means of supplying its defect. The case to which I allude was chronic disease of the ear, attended with discharge, and much impaired hearing, of three years' standing, and my aim was at first confined to the construction of an instrument adapted to that part of the body; but the principle which I hit upon I soon found to be capable of being greatly extended, and applied to the examination of disease seated in parts still more remote from observation, and to which actual inspection has not before penetrated in the living body.

The means I employed for effecting the purpose are based on the principle of illumination by means of totally reflecting prisms of flint glass; and in order to render it intelligible to the reader, I have appended a diagram of

* "Description, with illustrations of a Totally Reflecting Prism, employed for illuminating the open cavities of the body, with a view to facilitate the examination of disease, and the application of remedial means in such situations. By Adam Warden, M.D. F.R.C.S.E. Communicated by Andrew Fyfe, M.D. F.R.S.E. &c."

the instrument constructed for making examination of the auditory canal,—as an inspection of that instrument, in connection with what I have to say with reference to the extension of the principle, will suffice to satisfy any one of its general applicability.



The narrow and indirect tract of the external auditory canal, and the hairs with which it is commonly beset, are, as is well known, the natural obstacles to a correct view of its inward course and termination. By the aid of the *speculum*, and owing to the moveable state of the cartilaginous portion of the tube, these difficulties in the way of observation are readily obviated. Sufficient light, however, to illuminate the yet dark passage remains the one desideratum, without which, to exhibit the actual condition of the membrane of the tympanum, the surgeon cannot pronounce as to the importance or curability of disease, nor resort, with confidence of its safety from danger, even to the popular remedy of the syringe.

Before describing the method of illumination which I have found fitted satisfactorily to fulfil this end, I beg to notice that, according to my experience, preternatural constriction of the auditory canal, from morbid thickening of its walls, exists to a greater or less extent as a complication of chronic disease of the external ear, and by forming a physical impediment to the access of sound, all measures directed to restore the functions of hearing, irrespective of this condition of the passage, must prove comparatively ineffectual. The instrument which I submit to your notice is therefore formed with the view of its being adapted not only to the different development of the organ of hearing in youth and age, but also so as to form a series of dilators, applicable to the removal of stricture, upon the same principle as regulates the treatment of the same disease in other situations.

The instrument devised and represented in the accompanying diagram, consists of a straight arm, *a a*, five inches in length, terminating in a ring *b*, of half an inch internal diameter, the ring grooved in its interior as a screw. To this screw are adapted four canulæ or straight tubes, *c*, of four, three, two, and one lines calibre, and another, *d*, of a funnel or tapering shape, applicable for preliminary exploration, and removal of any accumulated cerumen obstructing the passage of the light, also for affording a proper field for the passage of instruments, and for other topical manipulation. From the middle of he straight handle arises a curved branch *e*, and moveable in a pivot joint at *f* toward the other side of the handle. This branch forms a stalk on which a prism of flint glass *g* is perched erect, on the level of the opening of the affixed canula. The prism rests in a metallic socket, and is made to revolve on its own axis at the touch of the finger, or to remain fixed in any desired position, by the aid of a small clamping screw, *h*. The instrument is thus complete for use. The canula is to be introduced into the ear to be examined, the patient being seated exposed to a good light. The surgeon placing himself conveniently opposite to the side of the patient, a face of the prism is turned towards the light, and it is made to revolve until the luminous spectrum is conveyed to the bottom of the canula, and to the surface sought to be observed. There is no difficulty in the adjustment of the position when the new relations of the light and of the object are familiarized by a little experience; and when once this adjustment is made, the full and clear illumination of the object is at once obtained, and with a degree of brilliancy exactly proportioned to the quantity of light employed in the particular observation.

The principle or theory consists in *total reflection:* the light is received by one side of the prism, is reflected from the second side, and emerges by the third side to the object illuminated, as represented by the dotted lines *x y z*, and whence its view is revealed to the eye. The illumination is not preternatural or dazzling, such as would alter the real features of disease, but natural, and such as the eye is familiar with. The advantage of this flat natural light will be fully appreciated by professional eyes; and I am persuaded, from ample experiment, that any means of concentrating light by lenses, or converging mirrors substituted for the prism, would not improve the serviceableness of the instrument exhibited, although by their subsidiary employment they may be made to contribute to its efficiency, whenever, under extraordinary circumstances, more intense light is required.

The method of illuminating diseased parts by the medium of the prism is relieved from the intricacies inseparable from the employment of a reflecting speculum, whose curve must be anew adapted by the manufacturer to the focal distance of the object to be viewed, otherwise it is indistinct and distorted,

as in a false mirror. Neither is the method invented by me liable to the objections applicable to various ingenious contrivances for the same end, which we owe to distinguished members of the profession. By the convenient position of the light in prismatic illumination, it is not liable to be intercepted by the shadow of the observer, as is the case with any direct light proceeding from behind him,—a disadvantage we are not free from even where sunlight is employed; and if a lamp and lens be placed between the eye and the object viewed, not only does the dazzling artificial medium alter the characteristic aspect of disease, but such apparatus, in order to guide any surgical procedure, must be kept strictly in such a position as necessarily to interfere with any convenient measures in the removal of foreign bodies, or other manual operations. By a construction of instrument suited to the situations of disease in the different cavities, increased facilities in surgical practice, I feel warranted in asserting, are largely attainable through the adoption of the method proposed by me.

It will not fail to appear of no small *moral* importance, that by this method of obtaining observation and applying satisfactory treatment in the uterine diseases of females, the withdrawn position as it were, of the light, is calculated to lessen the misery attending all professional interference in such cases.

In conclusion, I may mention, that I have satisfied myself by varied experiments that a Totally Reflecting Prism placed in the angle of a bent canula, and illuminated by a second prism, in the manner already described, will afford a satisfactory view of objects whose situation precludes the possibility of direct observation—such as the opening of the Eustachian tube and of the glottis, the position of foreign bodies detained in the throat, &c. For the sake of illustration, I may state, that by a simple arrangement, consisting of two tubes, each twelve inches long and one inch diameter, embracing at their point of junction, at right angles to each other, a right-angled prism, I have been enabled to make inspection with the utmost accuracy of exquisitely coloured drawings of the morbid anatomy of the eye; obtaining by the arrangement described a reflection of the image presented at the opposite extremity of such an instrument, and that in all the brilliancy of sunlight-view.

I hoped to have accompanied this communication with a view of the instrument, which is in course of construction here, under my directions, applicable to the survey of the region of the throat; but as it has already undergone several modifications, and is not yet fully conformable to my wishes, I must reserve my description of it for a future opportunity. Furthermore, I find that a diseased surface can be accurately inspected at the extremity of a straight tube of twelve inches long and a quarter of an inch diameter; and I indulge the hope that within this range a more satisfactory treatment of highly seated strictures and diseases of the straight gut, as well as of diseases of the urinary organs, may be thereby attained. That the latter expectation is not altogether visionary may be inferred from the fact, that the straight canula of the *brise-pierre* of Baron Heurteloup has a diameter of one third of an inch.—I am, sir,

Your obedient servant,

ADAM WARDEN,
M.D. F.R.C.S.E. &c.

3, Baxter's Place, Edinburgh,
May 4, 1844.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Guy's Hospital Reports. New Series, No. 3, April 1844.

(Second Analytical Notice.)

DR. OLDHAM furnishes a paper, entitled, "On Polypus Uteri, and its Co-existence with Pregnancy," in which he also develops his peculiar views on the mechanism of menstruation, and of hæmorrhages from the unimpregnated uterus. Under the generic term "polypus," he proposes to include all the different bleeding growths which spring from the fundus, body, cervix, or mouth of the uterus, and which either preternaturally distend its cavity, or protrude into the vagina, or even beyond the labia. He describes five varieties, and, from the consideration of their morbid anatomy, is led to regard them as

formed generally "not from an organized coagulum, or on the type of compound adventitious cysts, but as direct productions of the different elementary tissues of the uterus itself."

1. The pediculated fibrous polypus. When the common, hard, or fibrous tubercle, the most common growth to which the uterus is liable, grows inwards, it comes within the directing power of that organ, and is propelled downwards. It thus acquires a stalk or pedicle, and ceases to be the inert body, hurtful only by its mechanical action, that it was before, and becomes a baneful and bleeding tumor. This pedicle is more or less readily acquired, according as the fibrous growth originates immediately beneath the mucous membrane, or is more deeply seated, and covered by the proper uterine tissue.

This kind of polypus is composed of a fibrous growth, with more or less of uterine structure, covered by the mucous membrane. The anatomical elements of the fibrous growth are clear unstriped fibres, closely packed, interspersed in some instances with crystalline calcareous grains, and minutely divided capillary arteries running parallel with the elementary fibre. The amount of blood-vessels in the fibrous growth itself varies with its compactness and density. The arterial supply is scanty when the growth is hard and of long standing; but when more recently developed, large and numerous arteries proceed from the uterine tissue, and freely enter it; but not so the veins, for they are only closely collected around, but do not enter within it. The amount of uterine tissue varies: in some instances a thickish layer incloses the fibrous growth, but more commonly it is very thin around the free expanded surface, and collects in the stalk. The lining membrane of the uterus always forms the external investment, and is usually clear, thin, and smooth, but sometimes thick, and of that woolly flocculent appearance met with in various disorders of the uterus and ovaries.

The vascularity of this polypus resides essentially in the investing or connecting portion of the proper tissue of the uterus, which undergoes changes proportioned to the bulk of the fibrous growth. The arteries increase but little compared with the veins, which enlarge greatly, and much in the same way as in pregnancy, gathering around the inclosed tubercle in a planiform manner, or densely collecting in the stalk.

Of this variety Dr. Oldham remarks, first, that the process of descent or pediculation may occupy years, or even destroy the patient, before it is completed. Secondly, that this polypus may occasion a clear serous discharge as well as hæmorrhage, the former as effectually draining the system and destroying as the latter; or that both kinds of discharge may alternate in the same patient: of which he details an instructive case now under treatment. And lastly, that the uterine action which effects the descent of the fibrous growth occasionally produces inversion of that portion of the uterus from which the polypus springs—a circumstance of great practical importance in attempting removal by ligature. Three preparations showing this occurrence he has himself seen, one of which is figured in illustration. The right horn of the uterus, with its orifice patent, is seen completely inverted by a polypus about the size of a small orange. It was taken from an unmarried female, between 50 and 60 years of age. It is also remarkable, because the lower part of the growth, which has passed through the dilated os uteri, is seen in a state of slough and ulceration; and on the right side there is also a large patch of fungoid growth, with a corresponding one, of the same size and character, on the contiguous surface of the expanded uterus.

The history of the cases where an inverted portion of the uterus has been included in a ligature, by Denman, W. Hunter, and others, is that of a fatal operation, with symptoms of uterine and peritoneal inflammation, phlebitis, and the absorption and circulation of pus. Dr. Oldham points out the symptoms which may lead the practitioner to suspect the presence, and eulogizes the aid afforded by Dr. Simpson's uterine sound (a new name for the old probe?) in determining the co-existence of partial inversion of the uterus with polypus, and judiciously observes, "that the occurrence of pain when the ligature is tightened, attended perhaps by vomiting, ought to be met, not by opiates to lull the pain, and so destroy this valuable indication

of impending danger, but by loosening the ligature and relieving the included parts."

The sloughing, ulceration, and development of malignant disease on the free surface of the polypus, coexisting with inversion of the uterus, as represented in the plate, leads him to remark, that polypi, like other pendant tumors of the uterus and vagina, are apt to ulcerate and break down. This process usually begins at the lower surface, at a point where the greatest pressure exists, and extends upwards, destroying the growth, which is voided piecemeal; but sometimes occurs in the pedicle, when the body is said to be spontaneously separated. Dupuytren, he observes, maintained that polypi which had lain long in the vagina had a tendency to undergo cancerous degeneration,—in some instances by a transformation of the growth into a cerebriform matter, and in others, as in this case, by the generation of fungoid patches, with a softening of their structure. Dr. Oldham then introduces a case furnished by Dr. E. Rigby, where the uterus apparently became suddenly inverted after tying a protruding polypus, and was removed with the polypus by a second ligature by that gentleman. The evidence that it was the uterus, is, however, far from conclusive.

2. The spongy, cellular, or fibro-cellular polypus. From his description we learn that this variety is so called from its appearing cellular when cut into. In some rare instances cysts containing a clear fluid or grumous blood have been noticed; but, in general, the apparent cells are really truncated, or divided veins, and it might not inaptly be termed a venous tumor. The thin and delicate veins are, however, surrounded and supported by an unstriped fibre, closely resembling, if not identical with, the muscular tissue of the uterus. They not only collect around the growth, and may be seen on the surface in large trunks, but penetrate and are distributed through the centre in large channels, which freely communicate with each other, and form a very extensive venous circulation. An illustrative preparation is figured where the polypus is seen growing upwards towards the fundus. This kind of polypus grows from any part of the uterus, frequently with a very slender stalk, and is from the first of a soft and more impressible character than the fibrous variety. It sometimes acquires a very large size, and when associated with pregnancy, as in Mr. Crisp's case, which proved fatal, weighed seven pounds. The uterus does not readily yield, so that at first the polypus is seen flat, and accommodated to the small cavity; and it is only when it has escaped into the vagina that it expands and bulges out.

3. A polypus described by Dr. Lee (Med.-Chir. Trans. vol. xix.) This consists, in its interior, of a numerous collection of little round cells, supported by a fine fibrous tissue. The cells are about the size of Graafian follicles, tensely filled with a pellucid or semi-opaque fluid, and the cell capsule thin and transparent. The exterior is smooth, with numerous tense shining elevations. The specimen delineated is about the size of a Brazil nut, has a short pedicle, and grows from the body into the cavity of the uterus. Seeing that the uterine glands expand into cuplike cysts under the stimulus of impregnation and ovarian excitement, Dr. Oldham is disposed to regard this variety of polypoid growth as produced by these glands. The glands of Naboth have been observed in one instance, by Dr. Oldham, to produce an analogous formation at the lip of the uterus. They became transformed into a mass of round pearly-looking cells, blended together by a fine fibrous tissue, and were filled and distended to the utmost by a semi-opaque mucus, from obstruction of their mouths.

4. A form of polypus produced by enlargement of the cervix uteri. This has been described and figured in Dr. Lee's valuable paper. It consists of pendant cystiform bodies, clustered together, which are vascular, and filled with a curdy fluid. Dr. Oldham offers some suggestions on its treatment, and describes one in Guy's museum about the size of a walnut. It is a cyst with a cortical layer of fibrous tissue, and an irregular lining within.

5. The channelled polypus of the cervix. Dr. Oldham, in his investigations, has met with two specimens springing from the cervix, and in which the crypts with their tenacious mucus reappear; but which are so very different from the last described variety, that he proposes to call it by

the above name. The polypus was single in both instances, with numerous valvular orifices marked out on its exterior, while its interior was made up of many large channels, with occasional communications between them, and opening by the large orifices observed on the free surface. These channels contain more or less mucus, are lined with a thin rugous membrane, and are vascular. Both specimens are delineated.

Dr. Oldham next institutes an inquiry into the source of the alarming bleedings which polypi occasion. He observes, that "the peculiar circulation of the womb, which is eminently venous, and the disposition of the veins in planes, and not a gathering from capillary to small branches, and from them to larger, and their tendency to open by lateral apertures on the surface of the uterus during pregnancy, ought never to be forgotten in uterine pathology." When the unimpregnated uterus is injected, he finds the lining membrane is covered with a uniform capillary network, with some largish veins running just beneath the surface, and in a straight line from the cervix towards the fundus. Contrary to the views of Dr. Churchill, he regards the hæmorrhage as furnished by the polypi themselves, and principally from the veins on their surface or pedicle, which sometimes are lacerated, and at others open under accumulation of blood as they do during menstruation. The existence of vessels in polypi has been overlooked by Dr. Churchill and others, from the difficulty that exists "in recognizing the veins of the uterus when they have quitted their uterine bed, and been prolonged into any adventitious growths, or as a familiar example into the placenta; their very thin coats collapse, and their smaller divisions appear like a loose cellular structure. Their obscurity in the placenta has long been known, and unless they are well injected, it would be very difficult to recognize as veins those large oblique lateral channels placed intermediately between the margin of the placenta and the uterine veins, and returning the blood from the placenta into the general circulation." It is also embarrassing to make out the exact state of the veins during the function of menstruation, just as the demonstration of the muscular fibre and the nervous ganglia, in a uterus where these elementary constituents are undeveloped by pregnancy, is one of acknowledged difficulty; but there is much circumstantial proof that menstruation is but a periodical enlargement and spontaneous opening of the veins on the inner surface of the uterus. Whatever difference may be said to exist between the menses and blood, as to the former not coagulating, being defective in fibrin, &c. (variations which its slow admixture with the salts, in the secretion from the uterine and vaginal glands, may probably cause) still its appearance under the microscope (carefully taken from two women with procident uteri), goes far to prove it a hæmorrhage, as the blood corpuscle is its main constituent. If a healthy uterus examined after death be squeezed, its lining membrane remains clear and perfectly smooth as before the pressure was applied; but if enlarged, from the congestion preceding or attending menstruation, or the development of a small tumor, the membrane when thus pressed shows a number of bloody points, which increase with the continuance of the pressure. The easy and frequent conversion of the monthly discharge into an undeniable hæmorrhage with clots, favours, and the venous openings when the womb is magnified by pregnancy, additionally confirm this view. Mauriceau observed, and Burton figured these openings in 1751; and in a conjoined experiment of Wallace, Johnson, and John Hunter, an injection of flake white and water thrown into the cavity of the uterus, when the fallopian tubes had been tied, and the arteries previously injected, found its way into the hypogastric and spermatic veins. From all these circumstances, Dr. Oldham regards the proximate cause of menstruation, as a filtering of blood from veins which open naturally upon the surface of the uterus; passive menorrhagia as a loss of power in the muscular fibre, which guards the orifices of these veins; the first bleedings in polypi, he ascribes to their general enlargement, and that want of accordance between vein and enveloping fibre, which a new interfering growth would be likely to produce; while the sudden bleedings which arise more capriciously, and without regard to the menstrual periods, take place either from

the tearing of the thin layer of mucous membrane which covers their free surface, and the orifices of the subjacent veins, or from the opening of these veins under the accumulation of blood much in the same way as the veins in the uterus do under the congestion of menstruation. Dr. Oldham has not yet succeeded in displaying the manner in which the veins terminate on the investing membrane of polypi, but has assured himself of the fact that in some instances they approach the surface not only as large long trunks, but more like a cellular or cavernous structure. Cruveilhier says, in one case, "several great uterine sinuses opened, on its surface at its apex, from which the blood flowed which destroyed the patient."

Dr. Oldham then proceeds to the consideration of polypus associated with pregnancy. This may occur in two forms :—1st, as a tumor depending in the vagina, and outside the cavity of the uterus ; 2d, as retained within the cavity, and its existence unknown till labour has commenced or been concluded. The first form has been fully treated by Dr. Lever, in his Essays on Pelvic Tumors obstructing Parturition. When hæmorrhage has not demanded the removal of a polypus during gestation, it need not be meddled with during labour, unless its size mechanically prevents the passage of the child, when ligature and excision will prove the best means for its removal. He throws out the caution, that bleeding from a polypus may obscure the early signs of pregnancy, and the application of a ligature for its removal be followed by abortion; of which he narrates one instance, and has known several others. Of the second form, where the polypus is retained within the uterus, Dr. Oldham details six cases, four of which are furnished by Dr. Radford, of Manchester. He quotes two more from Dr. Churchill, two from Dr. Fergusson, and alludes to two others, for the purpose of illustrating its occurrence and treatment. A small polypus, he remarks, often exists in the cavity of the uterus, without producing any marked symptoms, and unless from some peculiarity of attachment, does not interfere with impregnation, but may become developed with advancing gestation. When conception occurs, the polypus immediately participates in the growth and increased circulation of the uterus, particularly the venous, and grows silently within the cavity, which accommodates it without its interfering in any way with the process of fœtal development, or showing any symptom of its presence. The labour has, in most of the recorded instances, been natural, and the uterus may close over the polypus without the occurrence of hæmorrhage or any untoward symptom ; or the polypus may be expelled into the vagina, or beyond it, and there remain, decreasing with the diminishing uterus, and without causing hæmorrhage. This result ought always to be looked for ; and it is an important practical fact to bear in mind, that a uterus which remains large, and evidently distended by something in its cavity after delivery, may contain a polypus, although a second fœtus, or a coagulum, are the most ready suggestions; for the use of ergot of rye as a means to get rid of a polypus is likely to complicate the case, and peril the life of the patient. Where uterine action continues, and the hæmorrhage is unimportant, every effort should be made by sedatives, suppositories, and enemata, to quell it, and give the patient a chance for the spontaneous disappearance of the tumor. Should, however, violent hæmorrhages come on, or uterine pain persist, a prompt removal of the tumor will be necessary. For this purpose the application of a ligature, and excision immediately below that ligature, are recommended. Torsion has been employed ; but the forcible tearing away of veins and fibre must be regarded as a dangerous expedient, likely to cause phlebitis and ulceration in a recently gravid uterus.

Mr. Bransby Cooper, who has performed lithotomy 84 times at Guy's Hospital, and upwards of 20 in private, with the loss of 10 patients, furnishes Observations on Lithotomy, which are commenced in the former, and completed in the present number. Twenty-seven of these cases are given in detail, eight of which were fatal. In four the operation was complicated with hæmorrhage, but not so as to prevent recovery. He employs the knife and straight staff. To lessen the danger of hæmorrhage, he opens the urethra at its membranous portion, so as to avoid the large artery of its bulb, and particularly insists that the fascial covering

of the left lobe of the prostate should not be divided by the knife, as the so doing inevitably leads to extravasation of urine into the cavity of the pelvis—the most frequent cause of failure of the operation. "He is perfectly assured that the incision through the prostate made by the knife should be no larger than just to admit the forceps; and that the finger of the operator, and the opening of the blades of the forceps, will be found the safest, and therefore the fittest, means of sufficiently enlarging the aperture for the extraction of the stone." These observations comprise remarks on the causes and symptoms of stone, a brief description of the operation of lithotrity, which Mr. Cooper prefers when the stone is small, and the bladder capable of retaining from eight to ten ounces of water for a considerable time; but they are chiefly devoted to a pretty full description of the lateral operation, and the various complications and difficulties which the operator has himself experienced.

These papers are followed by a detailed Report of 47 hospital cases of Stricture of the Urethra, Retention, and Extravasation; and by another of 39 cases, illustrating Diseases of the Brain and Nervous System, as recorded in the books of the Clinical Society, and without preface, note, or comment.

The length to which our analysis has extended shows the practical value we attach to these Reports. May they long continue to appear, and stir up other institutions to send forth the like! We gladly award a full meed of praise to the lay authorities of the hospital, who so liberally cooperate with the zeal and industry of their medical officers, in furnishing the means of investigating disease on a large scale, and in communicating the results to the profession in an authorized and authentic shape. There is, however, a somewhat pompous array of five names on the title-page and cover as *editors*—an unneeessary division of responsibility; and the papers contain many objectionable repetitions, and much careless and colloquial phraseology,—blemishes which we should trust would disappear in future numbers, but that we fear such an editorial phalanx is impenetrable to literary criticism. It forcibly reminds us of the homely adage, "Too many cooks"—but we say no more.

MEDICAL GAZETTE.

Friday, May 24, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE NECESSITY OF HIGHLY EDUCATED MEN AS PRACTITIONERS OF MEDICINE.

THE matter of highest moment to the community in any legislative enactment touching the medical profession, is unquestionably the means that shall be taken to secure them in a succession of competent practitioners. As to the way in which the affairs of the Colleges or Companies with which the members of the medical profession may be associated, are to be administered, this signifies little to the world at large—whether there shall be one or several grades in each branch—whether all shall have a voice in the election of officers and governing Council, or only a privileged few, &c. &c.—all this, if not unimportant, which it is not, is still matter merely of secondary moment. What I ask of the government of my country, next to protection in person and property, is that such laws be made as shall secure me in the attendance of a competent adviser in case of sickness to me and mine; or, taking a wider and better view, passing from self, and catching a glimpse of the causes of disease and premature decay among the members of the community at large, made aware of all the evils that follow to individuals and society from inefficiency through sickness and untimely death, I ask farther of the government under which I live, to assure me the presence of men competent to advise with me as to the intimate nature of the causes of disease in general, and to show me the means by which they may be abated or removed.

The eyes of society have but just been unsealed in regard to the immense amount of remediable evil under which they have been content as yet to sit supine, and to look on as the will of God for their destruction;—as if he who had bestowed were not also willing that we should enjoy, and hold for long, his gift of present being! How shall men of the stamp required, men possessed of the knowledge which shall most effectually aid me, first individually, and then as a member of the body politic, be secured? There is but one answer to this question: COMPETENT MEDICAL ADVISERS CAN ONLY BE SECURED BY THE CAREFUL CULTIVATION OF INTELLECTUAL FACULTIES NATURALLY OF THE FIRST ORDER.

That "education forms the common mind," is a familiar adage; but in medicine common minds will not suffice; there must be native talent to begin upon. The perception of this truth is even as old as the history of medicine: the Asclepiades always required the youth whom they took as pupils to have given evidence of talent, and of natural bent towards medicine, before they received them as servants of the temple; and it was a wise and an excellent regulation. Native ability, then, in the first place; careful cultivation, most liberal education, in the second.

The subjects of medical science do indeed lie universally beyond the eye of the vulgar, beneath the surface of things; they have all to be toiled for, and are only to be won by long years of devotion to their research. If it be generally true, as the old Greek maintained, that "the gods sell all excellence to man at the price of immense labour," it is peculiarly true in reference to medicine. The studies of the medical man, indeed, embrace not merely the subject in which their results find application; but, inasmuch as this subject lives not independently and self-sufficing, but, on the contrary, as he is influenced by, and intimately dependent on, every thing around him—the air he breathes, the food he eats, the circumstances in which he is placed, the means whereby, in the sweat of his brow, he earns his bread, &c.—so do the studies of the physician necessarily comprise all nature, so do they imply consideration of all that influences the bodily estate of man. We might even go farther, and say, that as man is not made up of body alone, but of mind, so attention to mental philosophy is fairly, is even necessarily, within the scope of the practitioner of medicine. "Out of the fulness of the heart the lips will speak:" and we of the medical profession in England know that, since the Roman Catholic form was superseded here, we do in fact serve as father-confessors to one-half of the community.—And here let us pause one moment, to cry honour on our brethren for the holy faith they have ever kept with all who have trusted them in the hour of trial; unbound by any oath, the confessional was never more sacred than hath still been with us the confided words of the sorely afflicted and the dying man; and we almost fancy—may we be pardoned for saying so—that the accents of trust and consolation we are enabled to speak, all-wanting in shape and method as of course they are, but grounded on reason, and the simple assurance impressed on our minds by the nature of our studies, of the being and attributes of God, are even as consoling to the sufferer as aught of ceremonial or more set form of imprecation. Oh! let the community take a large and liberal interest in its medical men, and own them as far removed, as heaven is high above earth, from vulgar empiricism and the traffic in nostrums—from homœopathists, and hydropathists, and mesmerists, and the host of purblind quacks,

and impostors with self-imposed blinkers, who waylay the ignorant to deceive them.

The community are indeed infinitely more interested in having a respectable and competent body of medical practitioners than in any other set of functionaries whatsoever. The well-educated medical man is now in fact the head and front of every measure having the social progress and the general welfare for its object; under his eye, and through his ministry, disease has long been on the decrease; and it is quite certain that the causes of disease and premature decay which are still suffered to exist, though easily remediable, are as legion in comparison with those that have been abated.

The most liberal education, then, appears to us to be indispensable. Acquaintance with the noble writers of ancient Greece and Rome, familiarity with the admirable literature of our own country, competent knowledge of the French and German languages, would, by general consent, form the groundwork: upon this would be reared the study of the natural or physical sciences—geography; mineralogy, and its twin sister, geology; meteorology; botany and vegetable physiology; zoology, comprising the natural history of man, and palæontology; physics and chemistry; and then of ethics and mental philosophy These constitute the initiatory, the really indispensable preparatory studies of the future practitioner of medicine.

So complete a course of elementary education, we are aware, has, as yet, been but vaguely indicated among us as necessary; rightly pursued, however, it is not only the best discipline for the mind, but is also, beyond all conception, attractive to the youthful understanding. There is no knowledge of which the growing intellect is so greedy as that which has the qualities and relations of the objects of creation for its subject; neither is there any kind of information that is so aptly retained, that proves of greater use, or that is so truly ornamental, as this in after life. Languages, to the mass of boys, are unmitigated drudgery; but we have scarcely met with one who had not an eager wish to be informed on subjects which are wont to be characterised as falling within the domain of *science*, and too apt to be viewed as beyond the grasp of the young mind. The study of languages, merely as languages—as matters that bear upon syntax and prosody, orthography and orthoepy; or, at the best, upon poetry, and rhetoric, and philosophy—belongs to the matured, not to the waxing intellect; and schoolmen have shewn their want of practical knowledge in their unavailing attempts to interest children in that which can only be interesting to grown men. The whole system of elementary education pursued in this country wants remodelling; Greek and Latin, and a smattering of mathematics, are far, very far, from being all that a man requires in the business of life; for which education, if it have any meaning, ought to be, from first to last, a grand preparation.

We would have languages, then, held as altogether subordinate to the study of natural science; they should be regarded but as means to ends, and nowise as constituting in themselves the ends. What we would insist upon is, the most liberal elementary scientific education, as necessary to the medical practitioner in his capacity of guide to the community in their efforts to mitigate and remove causes inimical to health and longevity. The proficiency which a youth has made in the several branches of natural knowledge that have been indicated, say at 18 or 19 years of age, would become an admirable test of his fitness to enter

upon the study of the medical sciences, properly so called. If he had not now acquired the amount of information on the physical sciences that might be held requisite, and did not display a certain degree of general shrewdness and ability, he should not be held qualified for the medical profession. Still he would have lost no time; on the contrary, he would have laid in a stock of information of a kind that must be useful to him in every situation in life. The world of business, of the mechanical arts, of manufacturing industry, would still lie open to him; and there he could make the talents he possesses available to himself and useful to the community.

A preliminary examination, in general letters and the physical sciences, of the young man who thinks of dedicating himself to medicine, we regard as absolutely necessary to securing the greatest amount of good that can possibly spring from any legislative enactment in reference to the medical profession: we, indeed, hold all the laws that can be made upon the subject as subordinate to this—the securing to the community highly educated men.

In our next we shall treat of medical education properly so called, and of the means of conducting it advantageously.

LONG ATTENDANCE OF MEDICAL MEN AT SESSIONS AND ASSIZES.

To the Editor of the Medical Gazette.

SIR,

I AM induced to make the following observations, in the hope that you, who are desirous of rendering every assistance to the profession, will enforce them on the minds of your readers, so that, by a combination of testimony, which without doubt will be added, the grievance may command the attention of those who have the power to remedy the evil.

The attendance of medical men as witnesses, at the sessions or assizes, for an *indefinite time*, is a grievance sorely felt by those who happen to reside at a considerable distance from their county town, where such sessions or assizes are held. It is right and proper that nothing be done to hinder or defeat the full exercise of justice; but, on the other hand, nothing ought to be done which may in any way interfere with the consecutive treatment of disease; as ignorance of a case in reference to its history, peculiarities, medical means employed, &c. might endanger the life of the patient. We all know how anxious the public shew themselves to secure the attendance of that medical man in wdom they place confidence; this anxiety is reasonable, and it were not too much to ask at the hands of the legislature for some arrangement to be made with the Judges which should secure the attendance of medical men, as witnesses in their professional capacity, at one specific time, that time not exceeding one day. Barristers and solicitors, who are in their element and at their post in an Assize Court, are perfectly reckless of the time of medical men, whose business, however, is suffering by their absence, and whose patients can never be persuaded that they are not neglected, when they know their attendants engaged in what they often think the more profitable occupation of attending in courts of justice.—I remain,

Yours most respectfully,

JOHN GRANTHAM.

Crayford, Kent, May 18th, 1844.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, May 14, 1844.

THE PRESIDENT IN THE CHAIR.

Case of a Tumor in the Right Hypochondrium, occurring after Injury, from which a large quantity of fluid resembling bile was repeatedly withdrawn by the operation of tapping. By WM. R. BARLOW, Esq. of Writtle, Essex. [Communicated by EDWARD STANLEY, Esq. President.]

THE patient, a thatcher, æt. 54, injured himself August 28th, 1843, by lifting a heavy ladder, and complained of so much pain in the region of the liver, that the author apprehended a rupture of that organ. He was very faint, in a cold perspiration, and the pulse scarcely to be felt. He was bled and purged. On the second day it was observed that the evacuations were white, and without bile, while the urine was dark,

as in jaundice. As the pain in the region of the liver continued, the bleeding was repeated at different times; he was put upon mercurials, and had a blister applied over the right hypochondrium. On the 15th September, a swelling of the size of a walnut was perceived over the seat of the liver; and this gradually enlarged till it had acquired, on the 9th of October, so large a size, and distressed him so much from its distension, that it was considered proper to tap it. Seven quarts of fluid were drawn off, and he obtained instant relief. This fluid, from its colour and taste, appeared to be pure bile. The swelling gradually enlarged again, and it was necessary to repeat the operation of tapping on the 21st of the month, when six and a half quarts were withdrawn. Upon analysis, the fluid was found to consist almost entirely of pure bile. After this he was tapped four different times, when similar quantities of fluid were withdrawn. On the last occasion, which was on the 26th Nov., only three pints escaped, and the swelling was not emptied; and he suffered considerable pain. On the following day bile appeared in his stools, and the urine was lighter coloured. The swelling was also much reduced in size, and it gradually subsided after this date. On the 4th February, 1844, he was quite recovered, and able to walk eight or ten miles. The author concluded with shortly stating several of the most interesting questions connected with the case, and proposing them to the attention of the society.

A desultory conversation, rather than set discussion, ensued. Dr. Copland took occasion to compliment the author on the very able manner in which his case was drawn up, and proposed it as a model—succinct, but embracing every point of necessary detail. Nothing but conjecture could be hazarded as to the real nature of the case. He viewed it, however, as one eminently calculated to show that injuries of apparently the most serious character were capable of being repaired by the powers of nature, if these were aided and not injudiciously interfered with. Upon this subject he had lately been engaged in making researches, and was surprised to find that so many instances of recovery after the most serious injuries had been recorded.

The President referred to the cases detailed in the early period of the session, in which considerable collections of an urinous fluid had occurred, apparently behind the peritoneum, and conceived that in all probability the collection of bilious fluid in this case of Mr. Barlow's was behind the peritoneum.

Mr. Arnott thought it very possible that the gall-bladder, greatly distended, might have been the sac that contained the bilious fluid in this case. Cases of the kind had occurred, and he thought that in this instance there were grounds enough to justify its reference to the same head.

The President indicated the Memoirs of the French Royal Academy of Surgery as the collection in which the cases alluded to by Mr. Arnott were contained.

Mr. Hawkins did not see the necessity for supposing that the collection in Mr. Barlow's case was behind the peritoneum. It might have been within the bag of the peritoneum, and been circumscribed by adhesion. He considered it was by no means certain that the liver could not be ruptured, and the patient recover. In his own experience he had known an individual survive this accident so long, that nature had made the attempt to repair the injury, and the process of reparation had proceeded so far as to unite the lacerated portions. He alluded to a case of Mr. Prior's, recorded, he believed, in the Society's Transactions, where tapping had been repeatedly had recourse to, and which was probably made necessary by rupture of the liver.

Mr. Lloyd dissented from the idea of its being an enlarged gall-bladder, for in these instances the tapping had invariably been fatal.

The President observed that the exact nature of the original injury was somewhat puzzling, and certainly it was difficult to believe that the fluid was contained in the cavity of the peritoneum; indeed, he might mention that the irregular shape of the tumor, when he saw it, did not at all favour that view. It had been imagined, at the consultation held in the hospital, that some injury had been inflicted in the neighbourhood of the gall-ducts, that some lesion had taken place, and that the tumor might possibly be owing to subsequent inflammation and ulceration of these excretory ducts, which had led to the extravasation of bile into the cellular tissue outside the peritoneum. He again alluded to what he believed to be analogous cases of injury to the ureter, and consequent extravasation of urinous fluid into the cellular tissue exterior to the peritoneal cavity, which he had brought before the Society at the first meeting of the present session.

Mr. Streeter suggested that a direct rupture of any portion of the biliary ducts external to the cavity of the peritoneum would afford a ready explanation of the symptoms and circumstances of this case; for the absence of blood in the matter evacuated by tapping, together with the irregular shape of the tumor, and its slow formation, did not appear to him to countenance the idea of either rupture of the liver or extravasation within the peritoneum. In reference to Dr. Copland's remark, of the

powers of nature in effecting recovery in apparently hopeless accidents, he had, in the early part of this year, witnessed a striking instance in a young man whose horse fell with him while hunting. He was seriously injured on the left side of the abdomen, and the most alarming symptoms of internal laceration supervened, and yet he recovered. Two points of treatment he held essentially necessary for a successful result—the not giving food or any liquid for many hours after the accident, and the early administration of opium to stop the peristaltic action of the bowels, and thereby keep the injured parts at rest so as to favour to the utmost the formation of circumscribing adhesions.

A Fellow of the Society thought, from the entire absence of bile that was observed immediately after the accident, and its reappearance immediately after the severe and unexpected attack of pain that succeeded the last tapping, that it might fairly be inferred that some obstruction to the passage of the bile into the intestine had at that time been suddenly removed.

Table of the Cases of Strangulated Hernia treated in St George's Hospital in 1842 *and* 1843 *; to which have been added the details of some of the interesting cases, and the post-mortem examinations: with observations.* By PRESCOTT HEWETT, Curator of St. George's Pathological Museum.

The author began by giving a statistical account of thirty-four cases operated upon for strangulated hernia. The result of these operations was twenty-five recoveries and nine deaths. The sac was opened in every case ; and in six cases a portion of omentum was removed. Five of these cases recovered, and one died of disease of the brain a few hours after the operation.

The author then gave, at full length, some of the cases which presented marked points of interest, and the post-mortem examination. Among the cases may be noticed Case 2, in which the gut, after having been strangulated for seven days, was, by the taxis, reduced with the sac. The symptoms of strangulation continued ; the hernia fortunately reappeared in the groin during a fit of vomiting ; the operation was performed, and the patient was discharged from the hospital eighteen days afterwards.

Reference was then made to four cases, in all of which the gut was enveloped by a complete sac, with a narrow neck, formed by the omentum. In relation to those interesting subjects, some quotations were given from Sir A. Cooper's and Mr. Lawrence's works, proving how *very rarely* these cases are met with. The author then proceeded to make some detailed observations on these omental cases, and on their formation, which he referred to three principal varieties. In three of the cases the hernial and omental sacs were more or less extensively united to each other. In the fourth case the omental sac was lying loose in the cavity of the hernial sac. Large quantities of adipose tissue were, he said, sometimes deposited in the folds of the omentum, forming the second sac; and he referred here to one of the cases, in which the walls of the omental sac were more than an inch thick, as shown by the preparation exhibited at the meeting. The neck of these omental sacs, the author remarked, sometimes becomes the *sole* cause of the stricture : of this a well-marked example was given at full length. This circumstance was mentioned as an additional argument against the practice of reducing the hernia without opening the sac.

The author concluded his observations upon these cases, by adverting to the possibility of an alarming hæmorrhage taking place *into the cavity of the abdomen*, after the division of the *neck* of these omental sacs.

After some remarks upon the relative frequency of the strangulation of femoral herniæ, the numbers of which were given in the table, he made some observations on the "opening of the sac," which he, on various accounts, strongly advocated in the majority of cases. The paper was concluded by some remarks on the removal of the omentum, and the various modes of applying ligatures in these cases.

Mr. Lloyd advocated the propriety of not opening the sac, as it lessened the danger, and nearly reduced the operation to one of taxis. He had never known a patient die whose hernia had been reduced by this procedure. He preferred removing any portion of omentum, where such removal was necessary, by incision, and then securing the bleeding vessels, instead of applying a ligature, as recommended by Mr. Hewett in the paper. Why was the operation required ? Because a stricture was already existing on the omentum. Would you, then, finish by making another ? He considered it safer practice to separate any existing adhesions, and return the omentum into the abdomen, instead of allowing any part to remain after opening the sac. He also alluded to some instances of double sac which he had met with, and considered the occurrence as not uncommon in umbilical hernia.

—— bore testimony to the accuracy with which the cases were narrated, and alluded to the difficulties which he, as a young surgeon, had experienced in performing the operation on a blacksmith, where he found a double sac and the inner sac formed the omentum adhering to the outer sac, which was formed by the peritoneum.

The President observed that he had lately noticed that hæmorrhage from the bowels frequently followed the reduction of a hernia by taxis. In one case it occurred to the extent of eight or ten ounces with the first motion. It did not seem a very improbable circumstance that the congested bowel should so relieve itself, but the symptom was new to him, although it might very possibly have been noticed by others; and, in reply to Mr. Lloyd, begged to assure him that hæmorrhoids had not been the occasion of fallacy in his observation.

Mr. Cæsar Hawkins had noticed the same circumstance.

The President then adjourned the Society till the 28th inst.

On the table of the Society Mr. Hewett exhibited the preparation of the very large scrotal hernia in which the sac was double. The whole of the outer peritoneal sac was lined with a thick and very adherent layer of omentum.

STATE OF THE PROFESSION IN THE PROVINCES.

To the Editor of the Medical Gazette.

Sir,

To those who, like myself, have the misfortune to reside at a distance from the great metropolis, nothing appears more remarkable than the want of knowledge prevailing among members of the medical profession in London, with respect to the mode of practice and general condition of their brethren in the provinces, especially of the surgeons (properly so called) practising in the large towns of England.

This deficiency of information is perpetually manifesting itself, both in the remarks of London journalists, and, still more obnoxiously, in the miserable attempts at medical legislation perpetrated from time to time by the Councils and governing bodies of the London Colleges.

Your leading article of last week forms one of many examples which might be cited in proof of my statement. Instead of its being true, for instance, that "all our extra-metropolitan surgeons, without exception," supply their patients with medicines, the facts are,—that a large proportion of the hospital surgeons in the provincial cities and towns, particularly in the *west* of England, do *not* practise pharmacy; that several of the leading surgeons have ceased even to practise midwifery; and that instances are not very rare in which great success has attended gentlemen who have commenced practice in large towns as "pure" surgeons. There is, in reality, a very respectable number of persons now practising out of the metropolis, who have an equal right to the title of "pure surgeon" with the members of the Council of the Royal College; and the proportion of medical practitioners who devote themselves to the treatment of disease, disencumbered from the preparation and supply of medicines, is steadily increasing.

Far be it from me to utter a word in disparagement of that numerous, well-informed, and useful body of men, the country general practitioners; but I will not hesitate to assert, that there is a growing tendency among the more discerning portion of the community, to consult those surgeons who abstain from the practice of pharmacy.

Now it is highly unwise in the London College and its supporters to shut their eyes to notorious facts, or to look on with indifference, if not with jealous hostility, to this progressive change in the practice of provincial surgeons,—a change which may be hastened, or perhaps retarded, but which *cannot be prevented.*

After the foregoing observations, I shall not be accused of inconsistency in dissenting entirely from your condemnation of the conditions required by the Royal College of Surgeons in Ireland for admission to their fellowship. Those conditions I believe to be founded on reason, and on a just sense of what is due to the profession of a surgeon, considered separately from the trade of an apothecary.

How much clearer and more definite is the line of distinction between Fellows and Licentiates in the Dublin College, than that between Fellows and Members in London! In the latter the distinction is a mere badge of metropolitan patronage; in the former it is a living reality, the maintenance of which I hold inseparable from the maintenance of the honour and dignity of the profession. Had the London College acted on the same high and liberal principles—had it taken up a position in advance of public opinion, instead of being forced, as it will be, by pressure from without, to abandon its hold on obsolete notions and customs, how firmly would it have stood in professional estimation!

As matters *now* are, it is neither surprising that a strong feeling in favour of the Irish College should exist among provincial surgeons; nor is it at all improbable, that the admission of several English "pures" to the fellowship in Ireland may sharpen the perceptions of certain London gentlemen, whose ideal standard of professional superiority is measured by a five mile radius from the General Post Office.

Should this communication be honoured with insertion in the Medical Gazette, I may perhaps presume to offer a few suggestions on the course which, as it appears to me, the London College might adopt to rec-

tify the errors in its new charter, and to set itself right with the profession in the country.

I am, sir,
Your obedient servant,
A Provincial Surgeon.

May 10, 1844.

["Licet omnibus," &c. as usual. We are only anxious to collect and to represent the true feelings of the majority of the profession, believing that out of the information thus obtained, thus diffused, good must result. We shall wait impatiently for an explanation, in the promised suggestions, of more than one part of the above letter.—Ed.]

THEORY OF MENSTRUATION.

"Beware the redding straik!" say the Scotch; that is, let him look to himself who attempts to compose a difference between two combatants. We were so much pleased with our task of raising up what we regarded as neglected genius and originality in Dr. Power, in our last number, that we are accused, by an esteemed correspondent, of having been less than just to another very deserving man, Dr. Robert Lee. We, however, never dreamed of questioning Dr. Lee's merits as having been the first to bring anatomical fact to substantiate Dr. Power's ingenious statements. We held this as unquestionable. Our correspondent says: "However well founded any view may be, still, if based only on analogy or indirect facts, it remains a mere hypothesis until direct observation of conclusive facts steps in to give it scientific value, and raise it to the dignity of a theory. Whatever credit, therefore, was due to Dr. Power, all scientific men must admit that *the theory of menstruation was not established, as it now meets us*, until the collection of observations on the condition of the ovary in females who happened to die during menstruation, was laid before the public, in 1833, by Dr. Robert Lee. The only fact wanting in Dr. Lee's observations, which still remains a desideratum, and is likely to remain so, is the detection of the ovum discharged from the ruptured Graafian follicle of the human female. As far as analogy from observations on the mammifera is admissible, however, this ultimate fact has lately been supplied by Prof. Bischoff, of Giessen, in his memoir entitled, Beweis der von der Begattung unabhängigen priodischen Reifung und Loslösung der Eier der Säugethiere und des Menschen, 4to. Giessen, 1844." In admitting this to be so, we trust that Dr. Power will not think we detract in any way from his merits; and in saying that we look upon the quality of mind which led Dr. Power to connect, with the familiar phenomenon of menstruation, the periodic maturation and detachment of an ovum, as of the highest and rarest order, we trust that Dr. Lee will not imagine we abate one jot from his deserts in having been, as we have said, the first to search for, with the purpose of demonstrating, the connection which previously had been indicated, and advocated as an induction from admitted data, by Dr. Power. And here we wish this question to rest. The relative *share* which Dr. Power and Dr. Lee had in the matter is perfectly obvious. Different minds will estimate the relative *merits* of these inquirers differently. This is mere matter of opinion, and has no connection with the facts.—Ed.

A REMARKABLE ABORTION.

By Dr. Bunde, of Fredrikssund.

The infant, a boy, was born with all the small intestines spread over his belly. It appeared that the thin membrane which had encompassed them like a sac, (a prolongation of the extended peritoneum) had been torn during delivery. The umbilical opening, whence the intestine issued, was the size of a shilling, and as several of the bowels were adhering to it, they could not be replaced. The child lived twenty-eight hours. On dissection it was discovered that there was no room for the bowels in the abdomen, because all the other organs were preternaturally large. The portion of the navel-string which had passed through the sac was very thin, but near the placenta it was an inch thick.—*Oppenheim's Zeitschrift*, Feb. 1844. p. 254.

In Oppenheim's Zeitschrift, for October 1843, four cases are detailed where the lungs of still-born children floated in water; which would tend in some degree to invalidate the hydrostatic test.

ON THE LONG ISSUE OF THE SCALP IN DISEASES OF THE BRAIN.

Many of our readers will recollect an excellent paper of Dr. Wallis, of Bristol, in the last volume of the Provincial Medical Association's Transactions, upon the above subject. In the number for 24th April, of the Provincial Medical and Surgical Journal, he makes some further remarks on the practice, and gives two remarkable cases in illustration of its power. Mrs. M., aged 40, after having suffered from severe pains in the head for 5 or 6 months, took to her bed. She was bled, purged, &c. but in spite of all, drowsiness and torpor succeeded. The head was shaved and covered with a blister, and ten grains of calomel every six hours were ordered. No improvement the next two following days; on the third night after, she was convulsed, and the right arm and leg became affected with spasmodic twitches. An incision seven inches long was now made in the course of the sagittal suture; the pa-

tient was insensible, and took no notice of the procedure; a thick roll of lint soaked in spirits of turpentine was placed in the wound. No farther convulsive attack; less tossing of the left limbs: a blister 16 inches long and 4 wide, was applied along the spine. The mouth became sore from mercury. By and by a double row of peas replaced the dossils of lint, and the patient made a perfect recovery. 12 months after this alarming attack she is well, and entirely free from her old headaches. The other case is one of hydrocephalus, in a boy 13 years of age, which seemed desperate, but also did well under the influence of the long issue of the scalp (7 inches) and a blister along the spine.

CASE OF INTUSSUSCEPTIO.

M. Staal, a military surgeon in Stagelsoe, has recorded a curious case of intussusceptio, where the patient, after stercoraceous vomiting, was completely relieved by an injection of nearly four grains of extract of belladonna in gruel. This produced narcotic symptoms and speedy fecal discharge. The patient recovered in two days.—*Oppenheim's Zeitschrift*, Feb. 1844, p. 258.

KING'S COLLEGE.

Dr. Ferguson has resigned his professorship. His associate, Dr. Arthur Farre, will probably be constituted sole professor in the department of Midwifery.

Dr. Watson has been elected a member of the Council of the same institution, in the room of the late Sir Henry Halford.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Gentlemen admitted Members, May 17.—W. E. Stuart.—W. T. Hardern.—W. Cumming.—W. Wallford.—B. T. Lowne.—W. H. Thoreau.—F. J. Lilley.—T. P. Powell.—H. M. Gruggen.—J. Bomford.

APOTHECARIES' HALL.

Gentlemen who have obtained certificates, May 16.—C. Hall, Peatling Magna, Leicester.—H. M. Gruggen, Chichester.—T. Humphreys, Anglesea.—W. Earengey, Plymouth.—E. Dewes, Coventry.—J. Hakes.—W. B. Kellock, Totness, Devon.—A. W. Williams, Shrewsbury.

BOOKS RECEIVED FOR REVIEW.

On Dysmenorrhœa, and other Uterine Affections. By Edward Rigby, M.D.

On the Nature and Treatment of some of the more important Diseases, Medical and Surgical, including the principal Diseases of the Eye. By John Charles Hall, M.D. &c.

On the Nature and Treatment of Deafness and Diseases of the Ear; and the Treatment of the Deaf and Dumb. By William Dufton, M.R.C.S.

Mesmerism and its Opponents; with a Narrative of Cases. By George Sandby, M.A. Vicar of Flixton, Suffolk.

TO CORRESPONDENTS.

We have a letter from a physician practising in Leeds, stating that a respectable tradesman of that town had lately died under the operation of the water-cure (*qy.* water-*death*) at Ilkley, and calling upon Dr. Hobson, Dr. Drennan, and Mr. Garlick, who were present at the necropsy, to communicate the facts connected with the case which had come under their notice.

M. B. appears to set —— —— right on the true spinal system, but he gives no new information on the subject. We should like to send —— —— M. B.'s letter, if he would favour us with his address. To publish it in the Gazette would bring —— —— on us again.

We cannot see anything new or peculiarly interesting in the "Two Cases of Puerperal Fever." The disease in the second instance was certainly carried by the practitioner to the patient.

The "Case of Pneumonia with vomiting," offers no point of peculiar interest.

MORTALITY of the METROPOLIS.

Deaths from all causes registered in the week ending Saturday, May 11.

Dropsy, Cancer, Diseases of Uncertain Seat	71
Diseases of the Brain, Nerves, and Senses..	165
Diseases of Lungs and Organs of Respiration	241
Diseases of the Heart and Blood-vessels	35
Diseases of Stomach, Organs of Digestion,&c.	54
Diseases of the Kidneys, &c.....	4
Childbed.....	3
Paramenia.....	0
Ovarian Dropsy	2
Disease of Uterus, &c.	3
Arthritis.....	0
Rheumatism	0
Diseases of Joints, &c.....	6
Carbuncle	0
Phlegmon	0
Ulcer	1
Fistula	0
Diseases of Skin, &c.....	0
Old Age or Natural Decay.....	37
Deaths by Violence, Privation, &c.....	17
Small Pox	27
Measles	9
Scarlatina	35
Hooping Cough	26
Croup	10
Thrush	2
Diarrhœa	8
Dysentery	2
Cholera	3
Influenza.....	3
Ague.....	0
Remittent Fever	0
Typhus	35
Erysipelas	9
Syphilis	2
Hydrophobia.....	0
Causes not specified	2
Deaths from all Causes	812

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, MAY 31, 1844.

SUBSTANCE

OF

A CLINICAL LECTURE,

Delivered at St. George's Hospital,

By Cæsar Hawkins, Esq.
Surgeon to St. George's Hospital.

1. *On a Case of Ossific Formations in Muscles.*
2. *On Contraction of the Fingers of both Hands.*
3. *On Suppurating Bursæ in the Sole of the Foot.*

The natural and new formed tissues of the body are capable of undergoing a transformation from one state to another; and a very common order in which such a change may be observed is this:—Some common cellular membrane may be subjected to pressure or other influence, by which the tissue is first condensed and smoothed into a cyst, such as you can see in this preparation resembling a serous membrane, and secreting fluid. In the course of time, the cyst, by inflammation, may be thickened still more, and altered sufficiently to resemble a completely fibrous texture, still preserving, perhaps, its smooth secreting surface; and then, finally, as you see here, the fibrous texture may be converted in part, or wholly, into bone. When there is an excess of earthy matter in the system, you have evidence of the fact sometimes in the formation of exostoses, or excrescences from the bones; but you will also see it in the change of the softer fibrous tissues into bone; sometimes in new formations, as in this serous cyst from the liver, or this bony tumor which I removed from the skin, and which appears to have been a sebaceous encysted tumor originally; sometimes also in tendons and ligaments. Look, for instance, at this long process, formed by what had been the tendon of the psoas magnus, where it is attached to the trochanter minor; and I remember an instance in which numerous portions of the vasti muscles underwent this conversion, and formed a great mass of bony processes surrounding the femur. Here, again, the ligaments of the spine have been changed into bone, and have rendered the vertebræ quite immoveable on each other. These tissues are often thus changed in old persons, in whom obscure pains like rheumatism or lumbago have been known to precede the change, and seem to shew its inflammatory nature;—and I may observe, that it is remarkable that elderly people should be liable to the change in question, since, as you know, their bones have a diminution rather than an excess of earthy deposit in them. Besides the tendons and ligaments, the natural fibrous membranes also undergo the same transformation, such as this large mass in the pericardium, or this bony deposit in the dura mater, the falx being its common situation, and epilepsy being sometimes the result.

It would seem that ossification of the fibrous texture of muscles may be the result of simple inflammation; for there was an account published some years ago of such a change in many recruits in the Prussian army, in consequence of the pressure and irritation induced by first carrying the musket. The surgeon who wrote this account says that he found it in as many as eighteen out of 600; and that a swelling of the deltoid and pectoral muscles in front of the shoulder took place, bone being deposited so as to require removal by operation; and that the pieces of bone were from $2\frac{1}{2}$ to 7 inches in length. It is singular, however, that such a circumstance should be thus common in one country only, and not be found in our own army, or in other armies; for I suppose the nature of the musket, and the mode of handling and carrying it, must be nearly alike in all countries.

But, in the next place, tendons, and liga-

ments, and muscles, have been occasionally known to be ossified in young persons as a remarkable form of disease. You are probably familiar with one instance, as it is found in many works in your hands, such as Cooper's Surgical Dictionary, which occurred in a boy who fell under Mr. Abernethy's observation, in whom the least blow or other injury would cause an exostosis, or an ossification of some muscle or ligament, till he was perfectly crippled. I recommend you also to look at the College of Surgeons, at the skeleton of a Mr. Jeffs, who lived for many years with this tendency, so that at 39 years of age, when he died, a vast number of such masses had formed, and anchylosed and fixed almost every joint or moveable part of his body.

There is, as you know, a man in the hospital who has ossification, or a tendency to ossification, in many parts of the body, and whom some of you have seen for nearly the whole of the last year; and as he came here at the beginning of his complaint, so that we know more of the history than in the two remarkable cases I have before alluded to, and the case is altogether very singular, I will draw your attention to this subject today. First of all, as the notes of the case are scattered in more than one book, and are from the pen of several successive clinical clerks, and as many of you have only seen the latter part of the case, I will give you an abstract of the series of parts affected, and the changes they have undergone.

George Brown, a groom, æt. 22, was admitted June 14th, 1843, with swellings in the lumbar and dorsal regions, which commenced a week before with violent pain, which has since subsided, but still exists when he moves himself, and which began just after he got wet through. One swelling is situated about the transverse processes of two or three of the lumbar vertebræ, on the right side, about four inches long, and an inch and a half wide, pushing the long muscles outwards; it is of very firm texture, apparently bony, and gives no pain on pressure. There is another enlargement, of rather greater breadth, in the left dorsal region, which is, however, not so hard as that in the loins; it gives some pain on pressure. It covers the three upper ribs close to the spine, and does not move with the scapula; and it appears to be covered by the rhomboid muscles. He says he was always high-backed, but perceived no swelling till the week before his admission. On the 19th, five days afterwards, neither prominence was so large; and July 10th, the upper swelling had subsided, and the lower also partly, so that the transverse processes could be felt, but with hard bone added to them, such as you can now feel; but the note of the same date, July 10th, says, another large prominence appeared the day before yesterday beneath the *left* axilla, at the anterior margin of the latissimus dorsi, and apparently situated on the serratus magnus, and on the 17th a similar tumor shewed itself in the same situation on the *right* side, and near it another hard painful swelling shewed itself yesterday, situated apparently below or in the pectoralis major of the right side, from its lower border to an inch below the right nipple.

On the 21st the scaleni on the left side were observed to be hardened and stiffened with slight swelling.

On the 31st the tumors on the right side were nearly gone, but the swelling over the dorsal vertebræ was again more prominent and elastic, and another swelling was found at the side of the lumbar vertebræ of the left side, exactly opposite the one present when he was admitted. By the 23d of August all the swelling had nearly disappeared, and he left the hospital on Sept. 6th, very well in health, and, as we hoped, cured, but holding himself very stiffly, and unable to bend the spine in bowing, which movement was performed only at the acetabulum.

But he was obliged to be readmitted on the 25th of October, in consequence of a recurrence of his complaint, the swellings being now more numerous and more prominent than before; and the notes at this date say—On readmission it appeared that he had continued his medicines most of the time he was an out-patient; but the pain and swellings had soon returned without fresh cold. The lower part of the sterno-mastoid muscle was very hard and inflexible for about three or four inches: the original swelling of the left side of the loins was apparently ossified: there was a good deal of swelling between the left scapula and the spinous processes of the vertebræ, a little lower than most of the tumor which he had on the left shoulder on his first admission, and in the centre was a small mass of osseous substance extending laterally as if in the rhomboid muscle, and moveable: under the angle of the right scapula, raising it outwards and a good deal impeding its movements, was a swelling of the same part, apparently (in part at least) of the serratus, which had existed when he was in before, and on one rib below this swelling, and fixed to the rib, was a small exostosis: the scaleni were still hard: all these swellings were painful and somewhat tender: he did not seem out of health, and was fat.

We pass on for about a month to Nov. 30th, at which time it is said, the soft swellings of the sterno-mastoid, scaleni, and serrati, and rhomboid muscles, have all lessened; but his movements are much cramped, the spine being very stiff, and the right arm cannot be lifted or moved. The left arm

moves easily, but the bony mass behind is now full two inches long, and is raised outwards by the scapula when the arm is depressed; it cracks by touching the base of the scapula. As this ossified mass was fast increasing, and was becoming fixed to the spine, I removed it by operation Nov. 23d. It was situated between the trapezius and rhomboid muscles, and was intimately associated with both, having the fibres inserted, as you perceive in the preparation, just as they might be into the periosteum of a natural bone. One end was smooth, from playing on the edge of the scapula; the other was fixed to, and partly ossified with the spinous process of the sixth or seventh dorsal vertebra. It was, as you see, about three inches long, of an hour-glass shape; the broadest part being about an inch in breadth. Most of it was firm bone, a little portion was cartilaginous, and the narrowest part was partly moveable;—it was in shape not unlike the two phalanges of the thumb joined together. Several vessels of large size were divided, and hæmorrhage took place afterwards to a great extent, so that he was very much reduced by it. The wound was slow in healing, but during the time nothing fresh took place; and on December 18th it is noted that the deposits were much diminished, except at the angles of the ribs, in the left scalenus, and on either side of the lumbar vertebræ.

I carry you on, next, to February 2d of the present year, when our notes say, he perceived a swelling coming on last evening under the right pectoral muscle, where it is attached to the ribs; it is of an oval shape, measuring in length about three inches, in breadth two and a half; it is soft, but immoveable. You saw in this, and in others of recent formation, the mode in which the swelling made progress, without ossifying: coming quickly, and at first soft; the next day it was harder and larger; and on the 4th it was from four to five inches long, by three broad; and the pectoralis minor was now implicated. On the 12th it was softer and flatter below, but was spreading above. On the 18th it was still extending upwards to the insertion of the pectoral muscles. On the 19th the swelling was less prominent, but there was great hardness, and the muscle was knotty and irregular. By the 24th the skin and cellular tissue were again moveable over the muscle, the hardness and knottiness of which were still noted; and on March 1st, the notes say, there was no trace of the swelling.

On the 4th of March, however, we find there is now a large swelling about the size of a goose's egg, just below the inferior angle of the *left* scapula, fixed, but apparently connected with the serratus; soft but firm, that is, not bony it crepitates on pressure: this was around a small exostosis which had formed since the same part swelled in July last. There was also observed on this day a swelling about the ligamentum nuchæ, four or five inches long, and very firm, and hard, and affecting all the muscles inserted in the occiput, besides the trapezius, being nearly two inches thick, and of some breadth.

On March 7th, the swelling below the scapula had increased, it being double the size it was on the 4th, and now as large as a saucer; the crepitation is gone, and it is much harder, and appears fixed: two days after this a cast was taken, which shows how very large the swelling then was, nor has it gone away at the present time (May 21st), though it began to lessen on the 13th March.

We pass on next to the 29th March, when a fresh swelling took place in the left pectoral muscle at its axillary border; but this lessened by April 2d. On April 12th, another formed of considerable magnitude under the latissimus dorsi of the *right* side, a little more backward than the former, which seemed to be in the serratus, and which was softer on the 15th. On this day, the pectoral muscle of the left side being smaller, was found to have a hard substance in it, which I thought would prove to be osseous, but it seems to be softening a little now. Since this time no fresh tumor has been noticed.

Such is a connected history of this singular case, and you can see the state the patient is now left in: very stiff from ossification of the lumbar vertebræ, and hardness of the muscles of the neck, and unable to use the shoulders freely on either side, but particularly on the left, owing to swelling under the angle of the scapula in the serratus, and from the almost ossified state of the tendon of the pectoralis major, which is moveable in two portions where the tendon revolves at its insertion, so the lower fibres may reach the top of the tendon of the reverse; he has also a small exostosis on a rib on each side, which does not appear to occasion any trouble, and is not increasing.

The next question is, of what nature is this disease? It is evidently of constitutional origin, since it has lasted so long, and has shown itself in so many different parts of the body. It came on, as you have heard, from the patient's getting wet, and apparently, therefore, is allied to rheumatism, though thousands of cases of rheumatism take place without such consequences as are here seen. The patient, however, has none of the usual symptoms of rheumatic disease, nor has he ever had any on former occasions; there is no deposit of lithates in the urine, no acid secretion from the skin. On one occasion the water was even alkaline; but this was at a time when he was reduced by illness, and had taken alkaline purgatives. It directly

afterwards became healthy, and has been so whenever it has been examined—acid, but not in excess, and without sediment of any kind. I may observe, too, that the ossific deposit is not composed of carbonate of lime, as many earthy concretions are, but of phosphate and carbonate, as in true bone, with cancelli, and an outer shell, and periosteum, and cartilage, and with all the signs of true bone, even when examined under the microscope. There is nothing apparently wrong in any function; the limbs act healthily, the appetite is good, and the pulse and tongue shew no sign of disease; the only circumstance which you can observe unusual, is a morbid greasiness of the skin; but the perspiration goes on naturally, and a copious secretion from the sebaceous follicles can have no influence on the system, and is not at all uncommon.

Nor has any thing been satisfactorily made out in former cases in which a tendency to ossific deposit has been observed. It has been known, indeed, to occur in more than one of the same family. I was consulted, for instance, very lately, for a young lady, who had an immense malignant tumor of the thigh-bone, and her sister also has an exostosis of apparently an innocent nature. Mr. Stanley met with a man in St. Bartholomew's, with exostosis, several of whose relations had also bony tumors, and Boyer and others have occasionally seen the same thing.

A man had his thigh amputated in this hospital, for what seems to me, judging from the preparation, to have been an innocent osteosarcomatous tumor, and five months afterwards the man had pulmonary symptoms, of which he died; and you may see in the museum of the College of Surgeons that besides numerous ossific deposits in the pleura, or rather, I suppose, in the cellular tissue behind it, the lungs also have great masses of bone in them, occupying a third at least of their bulk. Some bone has also been found in an absorbent gland after the operation for a tumor of a bone; but these circumstances are obviously incidental coincidences, evidence of excess of phosphate of lime from want of assimilation, and not evidence of return of disease of a malignant nature, like medullary tubercles in the lungs after the removal of a cancerous tumor. Our patient is rather pale and pasty in complexion, but shows no sign of any definite derangement of system.

Neither do the local changes enlighten us as to the nature of the malady: it is obviously inflammatory, indeed, from the pain and swelling and tenderness, and secretion of serum and lymph, but I cannot say why the muscles inflame, nor why the common results of inflammation are modified so that bone is formed in the cellular tissue of the muscles, and of the surface of the ribs.

If, then, I cannot assign any cause for this curious succession of inflammations, I am very little likely to be able to tell you what you are to do for a similar case if one happened to present itself to you. Let me mention, however, to you in abstract what has been done in this case, and what has been the influence of remedies, as far as we have observed them.

First, then, with regard to local remedies, I have repeatedly used a blister over the affected part, because this counterirritant has invariably done good, reducing the swelling and lessening the pain. I have also used a solution of iodine and iodide of potassium with a little advantage, but never with so much as seemed to be derived from blisters. Cold also relieves the inflammatory pain to some degree.

When he was first admitted, as the disease came on after cold, and thus seemed to resemble a rheumatic seizure, though with singular swellings, I gave the patient colchicum, which he took from June 19th to the 30th, with some effect, as it seemed, on the size of the swellings, and with relief of pain, but no effect, perhaps, in preventing fresh tumors. I resumed the colchicum, however, when the swellings began again on July 10th; but as they continued to form, I changed this medicine for the iodide of potassium on the 21st, beginning with five grains, and increasing it to seven grains, thrice in the day; and under its use, with an alteration of diet for the better, the disease seemed to yield pretty steadily. On August 14th I added sarsaparilla to the iodide, and he went out, as we have seen, Sept. 6th, apparently cured. But although he went on with these medicines some time longer, as he says, the disease returned in spite of them. On his readmission, therefore, on Oct. 25th, I tried him with a new plan, and put him on the use of mercury; he took two grains of calomel, with a quarter of a grain of opium, twice a day, which he continued from that date to Nov. 17th, about three weeks, his mouth being made moderately sore by it. Under this course all the swellings were nearly absorbed, at first rather rapidly, and afterwards more slowly; but nevertheless the mass of new bone in the shoulder went on increasing in size, and as he would plainly have been quite crippled if it had joined the scapula, with which it was in contact, as it had fixed itself to the spine, I thought myself obliged to remove the tumor. We have seen that serious hæmorrhage resulted from the operation, from the effects of which he was a long time in recovering; he, indeed, required much support to restore him to nearly the same strength as before. Whether it was owing to the loss of blood or not, I cannot say, but no relapse took place till Feb. 2d, when

the local remedy of two blisters was followed by an attack of erysipelas, which lasted a considerable time, beginning on the 22d of February. This was succeeded by the formation of an abscess in the axilla of some size, originating in a gland, and during the whole of this time numerous tumors were continuing to form in the muscles; so that the lowering of the system by these attacks did not prevent them, as it seemed not improbable that the loss of blood might previously have done. On the 6th of April, he was again sufficiently recovered to bear some specific plan of treatment, and I gave him phosphoric acid, which he had taken once before for a few days, before I was obliged to operate. He began with half a drachm, and now takes a drachm of the diluted phosphoric acid three times daily, and has continued it till the present time (May 21st.) My reason for this is theoretical only, namely, that the phosphate of lime, which he seems to have in excess, is an insoluble salt, while the super-phosphate is soluble; and it might, therefore, be supposed that if the acid could act in this way on the salt, the deposits might be prevented. This is, no doubt, a very vague kind of theory, but yet it is certain that during the use of the acid, with the exception of one tumor on the 12th April, a few days after he began it, he has had no fresh inflammation, and all that were forming when he commenced its use have much diminished. I may be asked, as the disease is obviously inflammatory in some measure, why depletion has not been employed? It has appeared to me, however, that the pulse never indicated this practice, and I do not think his being fatter or thinner, stronger or weaker, on low diet or good diet, has in any way prevented or accelerated the progress of the disease. It is altogether so very singular a case that although you may never see another of the same kind, and it does not, therefore, form so practical a subject as some others, I have nevertheless thought that placing the whole of it at one view before you would not be uninteresting.

I will take you, in the next place, to another subject—a disease which does not affect muscles like the former, but is yet allied to it, inasmuch as tendons and fascia are implicated in the affection; the case is also not very common, though you may perhaps meet with it, and ought to know how to treat it. The case is this:—

William Kisby, æt. 39, a coachman, was admitted on the 17th of April, with contraction in a greater or less degree of all the fingers of both hands, but chiefly of the fore, ring, and little fingers of the left hand, and of the ring and little fingers of the right hand. The fascia in the palm of the hands is very tense and hard, as also are the parts of the fascia leading down to the metacarpal bones, and then also those portions of the fascia which pass to the sides of the phalanges. There is no anchylosis of any of the joints, but there is partial dislocation of the second phalangeal joint of the ring finger of the right hand, which arises from the pressure of the fingers in their bent position against anything the man tries to grasp. The cutis in the contracted parts is much condensed and furrowed, and apparently thickened. Now the notes correctly describe the nature of the disease in this case; namely, that the contraction is in the palmar fascia, and not in the flexor tendons, though on first examining the hand you might easily suppose that the lines of hard substance, which start up when you try to extend the fingers, are the flexor tendons. In the Clinical Lectures which have been published as given by Dupuytren, you will find a very good account of this affection; he says he was the first person who discovered the real nature of this contraction, and mentions one case which he cured by operation after it had been pronounced incurable by Sir Astley Cooper. Dupuytren makes the same claim, indeed, with regard to most of the subjects he treats; but in this instance, at all events, he is probably correct in asserting that he first ascertained the cause of the contraction by dissection. It consists, then, of a slow contraction (with some inflammation probably, as there is sometimes pain in the affected part) of the portions of the fascia which separate from the annular ligament in the palm of the hand, and of the subdivisions of the fibrous mass which pass to the phalanges of the fingers, the tendons being only somewhat shortened by want of use for several years, and the skin being a little hardened and condensed, and intimately united with the fascia. Dupuytren says that it takes place in those persons who are subjected to laborious employments, in which some hard substance is constantly rubbed and pressed in the palms of their hands, and he instances coachmen, of whom our patient is one, as being one of the classes liable to it. I think, however, you will be able to find a *few* coachmen in London besides this man, and perhaps you will look in vain for another instance of this contraction among them. I have seen it, moreover, in several instances, in persons of a higher class of life, who have never, as far as I know, been subjected to the causes I have mentioned; so that I am not certain that the opinion of Dupuytren is correct; and I do not see very clearly why, if it were correct, the contraction should be confined, as it almost invariably is, to the ring and little fingers; nor why it should attack both hands as in this case (which is not, indeed, a common cir-

cumstance); for the two hands are very differently employed in his labours. This man had some little contraction of the fore-finger also, but it has nearly gone since he has been in the hospital, and it is unusual.

The remedy for this contraction is the division of the portions of fascia which are affected; and it would appear to be an effectual cure; at any rate it is so for a considerable time after the operation, and can easily be repeated if the contraction returns. I performed the operation, some years ago, on a patient in the hospital, and after two or three years I think the fingers were beginning to contract again slightly; the relapse was not, however, sufficient to require a second division, as it was no inconvenience to him, so that he has not come again to me. I have not been able to perform the operation for our patient yet, for he was unfortunately attacked, a few days after admission, with gouty inflammation, to which he is liable, in several joints successively, which has not yielded readily to medicine. He is now, however, tolerably well again, and I shall probably operate on the affected parts of one hand in a day or two, leaving the other till a future time, that I may not make him altogether helpless while he wears a splint, which must be kept on for a considerable time.

With regard to the mode of performing the operation, you are aware that, for contractions of tendons, we generally endeavour, at the present time, to perform a subcutaneous incision, so that no air may enter the divided parts to interfere with union by the first intention; and the parts having united to a certain degree, extension is then made, to separate the ends while the united substance is still soft. Now I have turned over in my mind the propriety of acting thus in the present case, but I am inclined to think I shall not do so. You know that the great risk of wounds and injuries about the plantar and palmar fascia is from confinement of matter, which is then made to pass along the tendons of the muscles, and thus they form very troublesome cases. Now in order to remove the contraction in this case, it will be necessary to make several cuts; the band of fascia must be divided in the palm before its separation to the two fingers; each finger must probably have another incision opposite to the joint with the metacarpal bone, and very likely smaller cuts must be made at the sides of each finger. To do this below the skin, which is inseparably joined to the fascia, must be at least very difficult, and not without risk of the digital arteries and nerves being injured; and then, as the extension on a hand splint must be considerable, I think it would be altogether impossible to escape suppuration in some of the several incisions. If the operation is done in this manner, and matter does form, it is necessarily confined, and may do much harm. I think, then, I shall operate, as I have done before, by direct incisions through the skin and subjacent contracted portions of fascia. It is true there will thus be several suppurating wounds, a little lint being put between the edges of the incisions to prevent their union; but then, on the other hand, there will be no confinement of matter, and consequently no probability that the suppuration will extend itself beyond the small cuts themselves, which extension is much more dangerous than the open wounds can be. It does not appear that Dupuytren met with any mischief when he did the operation in this way; and when I have done it myself, there was no inflammation of any importance produced.

In the short time which remains, I will draw your attention to a case, of not much importance in itself you may think, but it is one which you will probably often witness, and which is somewhat peculiar in its nature, and would give you trouble if you are not aware of its precise nature.

Thomas Nicklin, æt. 43, was admitted last week, May 15th, with a sinus at the under part of the right heel, leading deeply down towards the under part of the os calcis; a probe passed along it does not strike on exposed bone. The skin and parts around the sinus are very much thickened; the surface of the cavity is pale and without granulations. It came from cold, sixteen or eighteen months ago, as a small hole in the skin, with discharge of matter. There are some other notes relating to his health, which I will not read to you, as they are irrelevant to the remarks I am going to make.

Now I believe that this has been, in reality, a case of suppuration in a bursa under a large corn; and, without being aware of it, you will easily fail to recognise such a case; and yet you see, by this man's abscess, which burst a year and a half ago, that there must be some reason for so small a cavity not healing in this time; and this reason is, the peculiar nature of the bursa, which is incapable of forming granulations; and here, as the orifice is larger than usual, you can see the inner surface, which is pale, and thin, and white. Such a bursa not unfrequently forms under a corn, to defend the ligaments and joints from its pressure, either in this situation, or under the ball of the great toe, or under the metacarpal joint of the little toe; and is liable to suppurate, and discharge by a small orifice, with a hard margin: on inserting a probe, you occasionally find that the ulceration has extended in the contrary direction also, and has destroyed the periosteum of the bone, or has even opened a joint, so

that bone is felt by the probe, which exfoliates, or the joint is ultimately quite anchylosed. A similar appearance is thus produced to what you can see in another patient admitted on the same day, with anchylosis of a part of the joint of the metacarpal bone of the great toe with the first phalanx, while dead bone is felt in both of the exposed surfaces.

What I have found it necessary to do, in such a case as this, is to enlarge the orifice, and if it is necessary, destroy the whole of the inner surface with strong nitric acid, inserted by means of a little sharpened piece of wood; then you will succeed in procuring a granulating surface, and you can afterwards apply common remedies — red precipitate, solution of caustic or copper, and so on. You should, at the same time, cut away as much of the thickened cuticle or corn as you can from around the opening. The nitric acid gives little pain to the bursal surface, and is quite effectual in general. If the cavity or sinus is close to bone, or to a joint, you must apply the caustic somewhat carefully, in order not to affect those parts; or if the bone is already denuded, the acid may be applied to its surface also, and, partly by its stimulant quality, and partly by its chemical action on the bone, this part will probably be absorbed, or become healthy and heal up. Two or three applications of the acid are, from this cause, sometimes necessary, in order to avoid the mischief endangered by the too free application of it in the first instance.

REPORT
ON THE
ROYAL MATERNITY CHARITY.

By F. H. Ramsbotham, M.D.

(For the London Medical Gazette.)

[Continued from p. 253.]

During the year 1836, there were delivered in the Eastern District of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham,—

2268 *women—Of which cases,*

22 were twins—about one in every 103 cases: of these, in 4 both heads presented; in 15 the presentations were head and breech, or some part of the inferior extremities; in 2 both breech or some part of the inferior extremities; and in one head and shoulder. In 6 both the children were boys; in 9 both girls; and in 7 they were of different sexes.

1 was a triplet case, at full time; they were fine children, all born alive, two girls and a boy; two presented with the breech, one with the head.

1150 were males.

1142 were females.

2215 were presentations of some part of the head, of which

8 were face presentations—about one in every 286½ births; with two of these the funis prolapsed.

73 were presentations of the breech, or some part of the lower extremities —about one in every 32½ births; of these 19 were twins, and 2 were of the triplets.

4 were transverse presentations—one in every 573 births; all of the shoulder; all the women were delivered by "turning;" three of the children were born still.

In 4 the placenta was implanted entirely, and in 4 partially, over the os uteri—one in every 283½ cases. Three of the cases in which the placenta entirely covered the mouth of the womb were terminated by "turning;" in two the children were born living, and the women recovered; in one the child was extracted dead, and the woman died suddenly immediately after delivery. She was more than 40 years old, and it was her first child; there was excessive rigidity of the os uteri and other structures. When I saw her first, the os uteri was not dilated to a greater extent than the size of a shilling. I passed a catheter into the cavity by the edge of the placenta, and ruptured the membranes: the hæmorrhage did not materially abate, and in two hours I proceeded to deliver. I had great difficulty in introducing my hand and extracting the body. I was obliged, after the delivery of the trunk, to perforate the head behind the ear to enable it to pass; the placenta was immediately expelled, and although she had spoken cheerfully the minute before, she expired suddenly directly it was born. In the other case the placenta was expelled rapidly before the child by violent uterine action, and the child passed immediately after; it was born alive. It was at seven months.

Of the 4 partial presentations, one woman was delivered by turning the child, the head being at the os uteri. She had lost an immense quantity of blood; the child was dead. She went into a convulsion immediately after

delivery, but ultimately recovered perfectly. One case was a breech presentation, terminated by bringing down the feet, and delivering artificially; the child was born living; the woman did well. In the two other cases the head presented; in both the flooding ceased, or was very materially diminished, on the artificial rupture of the membranes, and both children were expelled by uterine action, living. One was at seven months.

3 were complicated with alarming accidental hæmorrhage before delivery, *not* the result of placental presentation —one in every 756 cases. In two of these cases the head presented; the hæmorrhage in both ceased, or was much lessened, on the membranes being ruptured; the women were delivered naturally, and both did well; one of the children was alive, the other still-born. In the other case the breech presented; the case was terminated by bringing down the feet; the child was born living, and the woman did well.

In 8 the placenta was retained within the uterus either by atony, or irregular contraction of the uterine fibres, or by morbid adhesion between the uterine and placental surfaces, requiring the introduction of the hand for its removal —one in every 283½ cases. Seven of these women recovered; the other died on the 17th day after delivery. A portion of the placenta was left within the uterus. It was removed by a gentleman not connected with the charity.

4 were complicated with alarming hæmorrhage after the natural expulsion of the placenta—one in every 567 cases. One of these patients died in an hour after delivery.

2 were delivered by the forceps—one in every 1134 cases; one was complicated with convulsions; the child was dead; the woman recovered. In the other case the child was born living, and the woman did well. They were both primary labours. There was no case of head presentation requiring craniotomy during this year.

1 was complicated with true puerperal convulsions; the fits came on when the head was in the pelvis. Bleeding relieved her considerably, but as the woman still continued insensible I delivered her by the forceps. She had no return of the fits after, but did not regain her consciousness for twelve hours. She ultimately recovered perfectly. The child was dead.

In 2 premature labour was induced —one in every 1134 cases; they were both breech presentations, and both the children were still-born. In one case the labour was brought on solely by the ergot; she took the medicine for five days, every six hours The child was putrid when expelled.

1 child was hydrocephalic; the head passed whole.

8 women died either within the puerperal month, or from puerperal causes —one in every 283½ cases; 7 only, however, from the effects of labour, for one sunk under confirmed phthisis of long standing a fortnight after delivery —one in every 324 cases.

2202 children were born living.

90 children were born still—one in about every 25½ births.

Of the Deaths,

1 was immediately after delivery, under a placental presentation.

1 from hæmorrhage, an hour after the natural expulsion of the placenta.

1 on the 17th day after delivery: there was an adherent placenta, which was disrupted and a portion left.

2 from peritonitis; both seven days after delivery.

2 from mania of a furious character; one seven, the other fourteen days after delivery.

1 from phthisis a fortnight after delivery.

Of the still-born children,

22 were premature.

6 were putrid at full time, or nearly so.

17 were presentations of the breech, or some part of the lower extremities, at full time, or nearly so.

3 were transverse presentations, at full time, or nearly so.

2 were delivered under placental presentations.

1 after violent accidental hæmorrhage.

1 under convulsions—a forceps case.

3 under very lingering labours.

3 were twins.

In 2 premature labour was induced.

With 6 the funis prolapsed by the side of the head.

1 was a face presentation.

1 was hydrocephalic.

In 2 the mothers had had many still-born children in succession.

In 4 the mothers had suffered some accident near their full time.

16 were at full time, not putrid, nor delived by art, there being no evident external cause to account for the calamity.

CONTRIBUTIONS

TO THE

PHYSIOLOGY OF THE HUMAN OVARY.

By Charles Ritchie, M.D. Glasgow.

[Continued from p. 256.]

19. The third general class of discharged ovisacs was distinguished by the secretion of an organized, yellow-coloured, brain-like, granular matter, and differed.

A. As the cerebriform matter was connected with ruptured ovisacs of (15) the first class, having transparent, pellicular coats, or with those of (16) the second class, having either their outer or inner coat thickened.

B. According as the granular substance was deposited external to the inner layer only, or to the two internal layers of the ovisac.

A. In menstruating females, and also during the first months of the gravid state, and sometimes even in the period of lactation, the ovaries were found occupied by one or more, and, at times, by five or six yellow bodies or cysts, the structure of which, especially in the more perfectly organized specimens, presented a striking resemblance to the convoluted, reddish-yellow surface of the brain, covered by its inner membranes, and painted with its scarlet coloured and dark vessels, and which, in the cases which admitted of it, had some resemblance, when it was examined by transmitted light, to the appearance presented by granules of adipose tissue. The coverings of the cysts were often, in delicate or in unhealthy females, or when their absorption was advanced, so attenuated as not to admit of demonstration (P. II., S. VII., 10), but in general they possessed the structure and appearance of the coats of the ovisac as these exist previous to the rupture, and in other instances they had undergone various degrees of that process of thickening by which the maturated and discharged Graafian vesicles or ovisacs are transformed into white bodies.

In the cysts with thin transparent membranes, the inner surface was, with some exceptions, where a membrane could not be detected (P. II. S. VII., 8), found lined by a delicate pellicle, which was often stained with blood, through which the yellow matter was visible (P. II. Sect. I. 1) as a dirty, cream-coloured pulp, or a paste of moistened white lead, which had been soiled, but at other times, when the blood was absorbed, the inner, and, in all cases, the outer surface of the cyst, exhibited the ordinary distinctive cerebriform character; and on scratching either aspect with a lancet, the granular matter was exposed situated between the two membranes. P. II., S. VII., 4, 6.

In those instances, again, in which the outer membrane had ceased to be transparent, the cysts, when insulated, displayed a cartilaginous looking exterior, having the yellow matter arranged on its internal surface covered by the inner membrane still diaphanous, although better organized than in those already described. P. I., S. IV., 1, 5; P. II., passim.

In proportion to the age of these cephaloid bodies, and perhaps also to the absorbing power of the female, they were found undergoing different degrees of diminution. In those possessed only of thin coats, or having the outler layer as the seat of thickening, the walls of the cysts speedily contracted and coalesced, when their centres exhibited, in the less organized, a delicate opaque streak; and in those better developed, a serrated, curved, and well-marked white line (P. I., S. II., 8, 10; S. IV., 1.; P. II., S. I., 2, 6, 7,) or a stellated point, (P. I., S. IV., 1,) according as the cyst was of an elliptical or of a globular form.

This variety of cerebriform cyst, in which the walls were pellicular in their structure, or the outer coat only thickened, the granular matter being deposited in both cases between the layers, was met with in a recent state indifferently in immediate connexion with the existence of menstruation and of the first seven months of pregnancy, and in this latter case, and also, in a conversion of this form yet to be (20) described, they constituted the corpora lutea of Dr. Montgomery. P. I., S. II., 3, 6, 8, 10; S. III., 3; S. IV., 1, 5; P. II., S. I., 1, 2, 3, 5, 5*a*, 6, 7; S. II., 3; S. IV., 7; S. VII., 4.

B. In another variety of this granular deposition the new tissue was found external to the two innermost layers of the Graafian vesicle, these latter being, in such case uniformly, converted into a dense white body (16 B.) surrounded by an envelope of yellow matter (P. II. S. I. 4, 5, 6a, 8, 10, 11a, S. II. 2). Such cysts (corpora lutea of Dr. Lee) were never observed as an effect of menstruation simply, but were met with exclusively in the gravid female; although they were seen, as was sometimes also (P. II. S. I. 2, 7) the cephaloid body with soft coats (19 A.) just described, presenting double in some cases of single conception (P. II. S. I. 9, S. II. 4).

This form (19 B.) of corpora cephaloidea was generally distinguished by large, persistent, white, glistening cavities, and, when divided, by cerebriform striated rings, the matter of which latter was found nearly quite absorbed three days after parturition, (P. II. Sect. II. 2) and had disappeared entirely in another case (P. II. Sect. II. 4) three weeks after delivery at the natural term, the parchment-looking inner layer, with its delicate, transparent envelope, being left in the form simply of a dense white body. A modification of these characteristics occurred when the usual cellular connections uniting the elastic internal coat of the ruptured vesicle with the more external had given way, and permitted the former to become rolled up as an almost solid pellet within the granular matter still lined by the latter; (P. I. S. I. 4, 5, 8, 11b, S. II. 5) and another modification was when the granular matter, instead of suffering absorption, became more vascular, and converted into (20) a red body, (P. II. S. II. 5) precisely as in the former case (19 A.)

20. The fourth general state of the ruptured ovisac was peculiar to the impregnated and lactating female in the period between the eighth and thirteenth month after conception, and appeared to be a conversion of the forms (16 A. B. and 19 A. B.) already described, arising out of a higher and more perfect organization. The condition was not observed till subsequent to the seventh month of utero-gestation, or later than the sixteenth week after delivery, and in some instances as early as two, (P. II. Sect. II. 2) three, (Sect. II. 4) five, (Sect. III. 1) ten, (Sect. IV. 1) and twelve weeks, (Sect. IV. 2) after parturition at the natural term, it was also absent.

Down to the seventh month of pregnancy, the cysts contained in the ovaries (P. II. Sect. I. 1, 2, 3, 4, 5, 6, and 7) did not differ in any respect from the cerebriform bodies found in the unimpregnated state, unless that they were sometimes plumper, more vascular, better developed, and had their inner layer more frequently thickened. At the ninth month, the yellow granular matter had lost the rhubarb-colour which it before this occasionally presented, (P. II. Sect. 1, 5) had become more dense, and of a pale, slightly yellowish hue or fawn-colour, (P. II. S. I. 9) changing to a faint red (P. II. S. I. 8, 10) on the access of air. Its structure was now about an eighth of an inch in thickness, and appeared as if formed of extremely delicate fibrils, which lay obliquely across, alterations supposed to depend not only on vital causes, but also on the contraction of the cyst, the cavity of which, having its inner surface covered, (except in those instances (P. II. Sect. II. 5, V. 2, 4) in which the inner layer was the part thickened), by the pellicular internal membrane, was now reduced either to a curved groove or to a circular stellated point, according to the shape of the cyst; a configuration produced by the corrugation on the plastic cobweb structure of the inner membrane of the highly organized and elastic outer layer and cerebriform matter.

At the end of the first month after delivery (tenth month), the external ring was (P. II. Sect. II. passim) of a mottled yellowish-red, and sometimes of a decided rose colour, and became very florid on exposure to the air, its section having some likeness, in the oblique arrangement of its seeming fibres, to that of the left ventricle of the heart. In one case, at the end of the second month after parturition (eleventh month), this ring (P. II. Sect. III. passim) is described as being of a brownish red colour, and as resembling the horny and glistening tissue of the condensed cuticle around some kinds of clavi when newly pared; and in another instance, in which the second month was completed, it appeared as a corneous, grey-coloured, semi-transparent

substance, having a striking resemblance, in its linear arrangement and fleshy colour, to the human nail in the living subject, as it rests on the subjacent pulp; its colour when examined by transmitted light appearing to depend on the presence of red vessels, which in a case at the fourth month (thirteenth month), were seen proceeding (P. II. Sect. V. I.) from a capsular investment.

In three instances of ovaries belonging to gravid women, which were observed, there were important modifications from those described in the structure of the red bodies. In one case (Sect. II. 5) while the redness was still situated in the outer layer of the Graafian vesicle, the inner layer, instead of being a mere pellicle, as was usually the fact, was thickened, and opaque, as in the cerebriform bodies (19 B.) already spoken of as having been seen only in the puerperal state; and in two others again (Sect. V. 2, 4), both the redness and thickening were situated in the inner layer, the cysts being obviously undergoing conversion into the condition of dense white bodies, (16 B.) just as often happens in the virgin. In one of the latter, also, (S. V. 2), the inner aspect of its vascular surface was covered with a yellow pigment of what seemed to be (corpora lutea 15 B.) disorganized blood.

21. The rose or red coloured (corpora rubra) fibrous bodies (20) now described, although, in their most usual form as consisting of an external very vascular portion, enclosing an opaque film, they were found exclusively in puerperal females, were yet not always present in the gravid or recently puerperal states.

Up to the seventh month of gestation cerebriform bodies only were seen, and in one case (P. II. Sect. III. 3) the same thing was observed eight weeks after delivery; while in another individual (P. II. Sect. II. 2) dying two weeks, and in a third (P. II. Sect. II. 4), three weeks, and in a fourth (P. II. Sect. III. 1), five weeks after parturition, neither rose-coloured nor cerebriform bodies were present, the only ovarian cysts detected being the two varieties of white bodies (16 A. B.), a state of matters which was renewedly observed at the eighth (P. II. Sect. III. 4), tenth (Sect. IV. I), twelfth (Sect. IV. 2), and sixteenth weeks (V. 3), and also at various (VI. 3, 4, 5, 6, 7, 8) more advanced periods after the birth of the child.

22. This excess of corpora albida over every other physiological appearance in the impregnated ovary, seemed to result sometimes, (P. II. S. V. 3) from a gradual obliteration of the vessels of the highly vascular outer coat and cerebriform matter lining it, which had constituted in succession a cerebriform body with transparent membranes (19 A.), and afterwards, a corpus rubrum (20) with single cobweb-like lining, and ultimately, a soft (16 A), white body; and, again, to be produced at other times (P. II. S. II. 2) by the absorption of the cerebriform matter which had been previously arranged external (19 B.) to the thickened inner and pellicular more external layer of the cyst; while in another description of cases (P. II. S. II. 4. III. 1, V. 2, 4) the total absence of granular deposit was noticed in such circumstances as to give much countenance to the supposition that in some instances of conception this phenomenon may not take place at all; but that, as sometimes occurs in the unimpregnated female, an increased vascularity and organization of the outer or of the inner layer of the ruptured vesicle is succeeded at once, without any such intermediate stage as involves (19 A. B.) the deposition of brain-like matter, by the formation respectively of a soft, or of a dense white body, as at 16 A. B.

23 In many puerperal women bodies of identical character, but in different stages of progression, were often found together, and it was then supposed that the best organized cysts were at once the most recent, and those which had furnished the fecundated ova; and that the others had been in existence for too long, although not neccessarily a very long time, before the occurrence of conception, to permit them to take on any increase of development consequent on gravidity (P. II. S. I. 3, III. 4, IV. 12, V. 2, 4, 5, VI. 1, 4, 5, 6, 7, 8, 9, 10).

24. In other pregnant women, in none of which had there been twins born, and in one of which the fact of there being a single conception only, was capable of being demonstrated (P. II. S. 2), two bodies of a similar kind, and of equal organization, were found either in the same ovary, or in the two; and in such it was impossible to determine the pro-

ductive from the non-productive vesicle, and their rupture, therefore, was believed to have been coetaneous, and that while the ovum of the one only had been fecundated, the coats of both, alike capable of taking on a higher organization, had been exposed equally to the increased ovarian circulation consequent on utero-gestation (P. II. S. I. 6, 7, 8, S. II. 4).

[To be continued.]

ON CONSTITUTIONAL IRRITATION OR GENERAL DISTURBANCE.

By T. Wilkinson King, F.R.C.S.E.

[Concluded from page 270 of our last volume*.]

(*For the Medical Gazette.*)

Varieties, dependent on the blood.—Cachexiæ. Fevers. Repair. Inflammation; its differences, local and general.

We may study with advantage the purely local causes of disease, and we may also do well to study those various peculiarities of parts which affect the course of disease; but, in the main, the essence of practical pathology is to consider not so much the morbid appearance, as the constitutional state to which it belongs—on which it depends. Purely local disorder arises from direct external influences *exclusively;* and so much of it as a perfectly healthy diathesis can affect is absolutely and only reparative, whether it be to detach a dead part, or close up a wound. Friction causes a corn. Some bodies throw up a corn (as a wart) too readily; others too tardily. One produces a bunion instead; that is, an evolution cellular instead of a cutaneous hypertrophy. Others, in peculiar states, from the very same external cause, run into ulceration, inflammation, or gangrene.

An external cause, in nowise different from the first, suffices to determine the location of exostosis, of struma, or of cancer; but no doubt the blood, from which every thing grows, must be altered before any of these last formations can be produced.

A certain pressure on a bone, like fracture, will cause a new deposit of bone; but the new growth ceases immediately that the cause is removed, unless constitutional circumstances of a specific nature keep up a disordered train of actions. It is only in one sex, and at one season of the year, that the stag's horn, with its skin, hair, follicles, and nerves, can be built up from the blood. And how much depends on the perfection of the sex!

Tumid scrofulous scars, and indurated results of burns, are forms of hypertrophy. The first occur in succulent vascular individuals, and decline as their bodies waste; and the second are, in part, the effect of physical extension; yet even these depend greatly on the state of the constitution. A hollow cicatrix, soft full reproduction, and hard ligamentous bands, are not determined more by the nature of the injury than by the condition of the reparative supplies, and the local management of the case.

An examination of causes, in the method we are now engaged to pursue, may by some be deemed out of place, or far-fetched, or even presuming; yet we would not conceal our persuasion that some such a course is the only true one. And even though any one of the little processes we attempt to explain may still need a better historian, we yet offer our sketch with some confidence, feeling assured that astrology is not more different from astronomy, than common pathology from the narrative of morbid processes. A celebrated surgeon sets the account of *pathologers* against the successes of the knife; but we ask, is not that surgeon most like an astrologer who disregards the intricate course of nature from health to the restoration of health —the chain of events whose links we may (perhaps in total ignorance) strengthen or destroy?

Our endeavour will be to give or hint at views of processes, however feeble and partial they may appear, and to find glimpses of more general inferences.

We have seen that simple irritations are various; some physiological, some pathological, and some therapeutic. We resume the consideration of the origin of diseases, on the humoral principle, that a *vast number of morbid phenomena depend on excessive, deficient, or deteriorated nutrition;** that is, that the blood is early affected in one of

* See also an account of Simple Irritations in a preceding number.

* Vide a Sketch of Humoral Therapeutics in the Provincial Medical Journal, Dec. 23, 1843, and in the Med.-Chir. Review, April 1844.

these respects, or perhaps only a part of its constituents is altered.

Let us see how we may rely on this doctrine. Let us consider it in relation to cachexia, fever, inflammation, &c.

Perhaps no subject forms a more natural commencement of this inquiry than the varieties of *cachexiæ*, which, however they may admit of elucidation by references to nervous functions, depend greatly on humoral principles, as we shall endeavour to shew. The cachexiæ may be studied in three classes: those in which marked visceral disease is the chief cause; those caused by continued excesses, or established sores or discharges; and those in which no marked traces of the above causes are discoverable. Cases of complicated origin will often be met with. Those which seem rather to depend on specific circumstances, as syphilis and cancer, might form a fourth class. They may be more readily examined independently.

The cachexiæ which depend on fixed disorganizations of the heart, lungs, liver, bowels, kidney, or nervous system, &c. are too strongly marked in the general to require illustration. It is very important to remark, that whether as physical, humoral, or nervous difficulties, the knowledge of them, especially humorally, tends to explain the nature of other cachectic states. It is not, however, to be forgotten, that disorganizations of the excretory glands and surfaces owe their origin, in the main, to disordered blood; and so all pernicious inflammations. The rupture of a valve may be simply mechanical; but the softening which mostly precedes the rupture is deteriorated nutrition or inflammation.

No one will, of course, dispute the disordered states of the body, and of the fluids in particular, that arise from indulgences in eating, or in drinking (with neglect of food), bad hours, habits of excitement; from exposure and loose pleasure, and habitual losses of blood, mucus, or of pus. Here is a well known series of cachexiæ; and it is not to be doubted that these, in a good measure, are in their essential nature humoral. The use of opium and tobacco, and the abuses of medicines, and poisonous as well as deleterious occupations, however complex their influence, owe their chief effects to deteriorations of the blood. We conceive that the old idea of latent disorder (concocting or brewing) deserves the most ample and attentive consideration, as, in fact, the chief part of all constitutional irritation. The effects of starving or of over-feeding, and of many kinds of diet, are too well established even as humoral cases to demand explanation, as in gout, scurvy, &c. Methods of treatment, as by regimen, bleeding, issues, or medicines, must be indebted greatly to the changes they produce on the blood for the ultimate benefit imparted to the whole body.

Cachexia appears also to develop itself simply in connection with a disordered balance of the humoral functions, as with impaired digestion, inactivity, or defective excretions. Heat seems to drive the system to wasting. Cold may retard the whole to the same effect. Slight or repeated exposures, when vigour is wanting, cause marasmus, with scarcely discernible febrile or inflammatory disturbance; and the susceptible frame may only be rendered more subject to these derangements by the enervating influence of summer. From a review of all these known causes of cachexia—the effects of climate, season, habits, accidents—we may be enabled to form some estimate of another set of causes (themselves consequences), which are doubtless still among the more mysterious parts of pathology. We refer to the initiative state of *fevers*, and to the spontaneous *phlegmasiæ*.

Perhaps it is scarcely too much to say, there is no such thing as simply catching a fever*; for previous cachexia must be inferred, at least commonly.

It is a very forcible truth, that when an individual has some local disorder, as a catarrh, or a sore, which, like an original organ, varies its activity in proportion to the disturbances to which the whole combination of external influences may subject him, he is almost exempt from fever or other inflammation. On the other hand, let his chronic variable issue, his supplementary depurating humoral function, be suspended, and he becomes even more certainly than another the victim of acute

* This strong assertion may be excused, if only to illustrate our meaning. Such cases as small-pox are not included.

disease. A strong man, after injury, has a tedious necrosis, discharging good pus; when it heals up, he has sanguineous apoplexy. In another, a wide old ulcer produces every week or two, with febrile relapse, a coating of fibrin: if the wound but partially heal, he has a solid pneumonia. It is too easy to forget the needful consideration of the diathesis. It is said watery purgatives cure a dropsy; but is it not much more true, that the drastic aperient acts peculiarly on such constitutions? How would it act on one prone to diphtheretic enteritis?

When typhus, yellow fever, or plague, cholera, influenza, or erysipelas, occurs sporadically, little or nothing is said of contagion; but not so when the endemic fever is epidemic. When the revolution of the seasons, and the set train of events which they entail in particular spots, bring about a common cachexia, a general humoral diathesis, especially amongst those most exposed, many suffer in the same way; and we are inclined to look for new and fearful causes of the evil. It is only towards the end of summer that fruit and vegetables disturb the bowels in London, and only in particular seasons that puerperal fever is carried about by the accoucheur. Erysipelas is contagious exactly in proportion to the number of cases in the hospital at the same season. Where plague is habitual, contagion is little considered, excepting only, perhaps, when the disease is most rife.

Inflammation.—If we regard hypertrophy and mere reparative inflammation as simply increased capillary function, we may consider inflammation as increased and deteriorated capillary action; but this action we refer to the blood humorally as nutrient. Atrophy, ulceration, and often death, seem to be only different humoral effects.

It might almost be said, that actual destruction is the only limit to the healthy powers of repair. History records the most fearful operations, injuries, and exposures, to have been endured without loss; yet a bruise, a graze, or a puncture, with constitutional disorder, is almost more rapidly fatal than irritative fever alone.

We think it a material fault to describe as inflammatory any truly healthy act of repair. This act is essentially distinct from every morbid process; but when it is found that deteriorated actions attend, the term inflammation, or an equivalent, is required to distinguish the morbid phenomena.

We have known a cart-wheel pass over a lad's knee, and lay open a pouch posteriorly large enough to lodge the fist, and all become closed by adhesion; and, indeed, there is no end to the facts of this kind which might be collected. A negro received fifty-three sabre cuts: both glenoid cavities were laid open. In a month he was walking about. A young gunner has his arm shot away, or a man swimming is torn by a shark, and the bowels hang out; amputation is performed at the joint, and his convalescence is almost uninterrupted. These are not isolated facts, and the triumphs of desperate surgery are still less so. We do not mean that the converse of all this is uninstructive.

Sometimes only compound fracture has irritative fever, but usually the granulating cavity has not, (it is a proof of the opposite diathesis) unless fresh disturbing causes be applied; and thus, as often happens, a renewal of fever is produced. Even after the local mischief is totally repaired, fever returns, not less *irritative;* and phlegmasia, suppuration, or hydrops, fatal or not, demand all our watchfulness. These are neither the cause of the fever, nor of its cure. They are casualties, more or less healthful or mischievous throughout; and their course has no precise relation to that of the fever. It is most true, that *with* reparative action we very commonly see traces of inflammation, that is, of morbid action; and it may be necessary to glance at the series of purely healthy processes, in order to enforce the distinction we are advocating. It cannot be too well remembered, that there is a long list of cases in which nothing seems done needlessly, or out of the way;—where the most limited local disturbance is all that is discoverable; and even the presence of foreign bodies, and the operation of various untoward circumstances, external and others, are not found to interfere with the steady and speedy restoration. "The flesh heals well" so long as the humoral condition of the frame is not deteriorated. How great an injury is perfectly repaired in the healthy body!

how slight a one determines irrepressible inflammation in the disordered constitution! Yet we would not doubt that one cut off by inflammation set up around a corn, might, under other circumstances—say, a favourable sojourn on the coast—have revolutionized his system and his blood, and have become capable of repairing considerable mechanical injuries. To us the rhinoplastic operations, and the reunion of detached fingers, do not seem so much to indicate "strength of vitality," or "degree of vital force," as simplicity and purity of action and blood; the absence of deterioration in fluid and solid—nutrient or reparative action being undisturbed.

In proportion as cachexiæ or visceral disorganizations are advanced, or nutrition is perverted, inflammation is of a worse kind. The diathesis which produces croupy false membranes in any mucous passage, may be transitory, or repeatedly recurrent, or at once fatal, and that even at any age of life. In a violent attack of erysipelas, the consequences depend greatly on the comparatively healthy state of the body, the importance of the parts invaded, the absence of fresh aggravating causes, and of injudicious remedial measures; but do not all these considerations refer in part to the blood, as liable to defect, and capable of repair?

We do not hesitate to assert, that there is no healthy spontaneous inflammation. Slight pleuritis, terminating in very partial adhesion, might be advanced as an objection to our statement; but what is the truth of the case? A comparatively healthy body has been subjected to a severe disturbing cause; the progress of events and remedies renders the effects transitory, and the mischief is repaired in the most healthful manner the case admits.

A lecturer on inflammation (Med. Gaz. 1840, page 306) speaks of active phlegmon and inflammatory fever in a *healthy* man; but although he still wishes to maintain the old views of reparative healthy and morbid inflammation, we suppose he would admit that phlegmon after simple injury must imply deteriorated health—we would say, morbid blood. There is no limit to the insignificance of the local cause of phlegmon and of irritative fever. A spark is too much in a powder magazine. The most accustomed exercise, the most ordinary exposure, may prove the initiative of fatal disease. How should a shoe else grow old and easy over a corn, and yet induce at last rigor, inflammation, and death?

The author referred to continues thus:—"Does ulceration occur in the stomach or intestines, and threaten to penetrate through them? Inflammation will often anticipate and provide against the danger, glue the threatened membrane to whatever surface may be next it, and so prevent that worse and universal inflammation of the peritoneum, and the almost certain death, which the escape of the contents of the alimentary canal into that serous bag would infallibly occasion." (Med. Gaz. 1840, page 305.)

These, we believe, are the established opinions of inflammation, but we wish to offer a plain objection to them. If the parietal peritoneum inflames, in consequence of apposed disease, it is the effect of direct local deterioration of its own tissue; and whether the serous inflammation be limited or diffused, the state of the individual's body alone determines. Sir A. Cooper recommends, when the dura mater has been penetrated, and the arachnoid cavity exposed, as in trephining, that the close layer of serous membrane should be wounded with a lancet, in order to insure adhesion, and so prevent diffused inflammation. We deem it altogether an error to refer the spreading of the mischief, or its arrest, to any such trivial local circumstances.

That modification of nutrition which is called reparative action should be ever regarded as of a very simple kind, whatever variety of tissues may be concerned. It excites comparatively no general disturbance, and is attended with no kind of mischievous or unnecessary local change or product. Parts greatly injured may die, and absorption must separate the useless living from the dead matter, and the exposed surface must granulate; but in the healthy body all this is conducted with the least possible disturbance locally or generally; and great and deep lacerations may heal up, as it were, by adhesion, without gangrene, though not without absorption, and without suppuration, or with only slight superficial granulation. We do not assert that slight injury is equally reparable in all parts as joint, skin, and nerve; nor

do we forget that the mode of repair of different parts involves specific difficulties, delays, and dangers. We admit that some of these may even be justly considered *nervous*.

When the course of acute or chronic disease is arrested by salutary constitutional changes, an empyema dries up, a psoas abscess shrinks, scrofulous matter becomes permanently shut up and fossilized, the varying action and effusion in hydrocephalus is arrested, the oldest catarrh disappears; and what is the history of the whole? it is merely the least modification of healthy process the case admits of. But if inflammation and any one of its pernicious products interferes with the series of changes, there is no remedy until again the general balance of the functions and the repairing diathesis are restored. The constitution peculiar to repair is a great point for medical study. It is a specific state, rarely pure, liable to many perversions, variable in a great degree, but a power to which, if it should but act, the physician may be well content to be subordinate. It is well if the physician possess but a crude notion of the means of liberating, promoting, or facilitating, the general state which is essential and peculiar to repair. With this state, foreign bodies are almost harmless. The brain may be sliced, joints laid open, the chest pierced through, the abdomen explored, limbs crushed, and the bare essentials of life being retained in integrity with healthy blood, the least complicated course of repair that the circumstances allow of is steadily carried on. Not so if dust in the eye, a hang-nail, or an old obstructed follicle, be attended with what old Wiseman called "a gross habit of body."

It is usual to say of the various morbid inflammations, whether spontaneous or traumatic, that they may end in resolution, which event, if analysed, amounts only to this,—that at a certain state and period repair begins. With better blood, we have contracting capillaries, only due nutrition, and no more of deposit, absorption, or secretions, than existing local particulars strictly determine. Injured bone causes just enough of new ossification*. A divided muscle is repaired by ligament, or rather cellular membrane, which active extensions convert into ligament. Cicatrization arrests the causes which induced granulation and exudation. Even the irrecoverable changes of inflammation, as tumefaction, softening, or induration, will thus be reduced or confined to the smallest limits.

After simple reparative acts, all the grades and varieties of inflammation, between the least unhealthy, and those which are the most so, require to be considered separately, and in order. But we may not expect to find the course of each uniform; the very principle of medical interference is, that the worse actions are susceptible of being converted into the better, as the better may relapse into the worse. Need we repeat that action with us means process?

[To be continued.]

* Where the new bone hardens, the mass diminishes, parts not serving for support being removed.

CASES OF POISONING BY ŒNANTHE CROCATA.

By P. Bossey, Esq.

(For the Medical Gazette.)

Twenty-one convicts were employed, on the 4th Feb. 1843, at the mortar-mill situated on the banks of a canal in the Royal Arsenal at Woolwich. At 11 o'clock in the forenoon eight or ten of them went round the building to an adjacent pond of water, in order to wash their spades and boots. One man (Chamberlaine) strayed away from the rest, and found this plant growing near the brink of the canal, the leaves and roots of which he mistook for celery. He dug up some, washed, tasted, and conveyed it to his companions. Several of the men returned to the spot, assisted him to obtain more of the roots, ate them freely, and distributed portions among their fellow-workmen who remained within the building.

At 20 minutes past 11, under the direction of the keeper, they were all about to fall into ranks for the purpose of returning on board-ship to dinner (most of them still eating and putting roots into their pockets), when one (Wilkinson), without any apparent warning, fell down in strong convulsions. The struggling was soon over; he became better, but retained a wild

expression in the countenance, which was pale, and in a short time he had another fit. Whilst they laid him upon a shutter, a second individual fell (Knight), and before they reached the yard adjoining the hulk, a third (Wilson) and a fourth (Salt) had also fallen, and were convulsed.

I arrived to give assistance about a quarter before 12 o'clock. Nine stout young men were at this time convulsed and insensible. The three worst, Wilkinson, Knight, and Wilson, were lying in a shed; Chamberlaine, Gundle, and Jeffs, had just fallen in the yard; and Williams, Jones, and Salt, were struggling on the deck of the vessel.

It was manifest that Wilkinson was dying. His bloated livid face, the sanguineous foam about the mouth and nostrils, the stertorous snort and convulsive breathing, and the extreme prostration and insensibility, plainly indicated that every remedial measure would be useless. Nothing was done but to raise the head and shoulders, and he died in five minutes.

Knight had been strongly and repeatedly convulsed, and appeared to be fast hastening into the same apoplectic condition. He was insensible, speechless, the pupils dilated, the face swollen and livid, the breathing laboured, and the limbs convulsed. To make him swallow was impossible; the rigid jaws were therefore forced asunder, and, by means of the stomach-pump, warm water was abundantly introduced and withdrawn from the stomach. Some leaves were extracted with the fluids, but the instrument was worked with the greatest difficulty owing to the severity of the convulsions. He died in a quarter of an hour.

Wilson had assisted to carry the two former: when near the yard he was observed to look pale, and soon fell convulsed. He struggled so violently that several strong men could scarcely hold him. After the fit he was restless; consciousness partly returned; he answered "yes" when his name was loudly called, and swallowed an emetic solution of sulphate of copper. No vomiting was induced, the convulsions were renewed; the stomach-pump was passed, but extracted only fluids. A collapse threatening immediate dissolution followed; his strength was gone, face pale, pupils dilated, breathing convulsive, and he appeared dying. After some time the stomach-pump was again employed, and small portions of the root, with a few leaves, withdrawn. Convulsions returned, with strong struggling, and about half-past 12 o'clock, in a fit, he suddenly died.

Emetics of salt and mustard, with warm water, were administered to those who had fallen in the yard, under which they vomited freely, and discharged a large quantity of imperfectly masticated root, and were thereby greatly relieved. The convulsions ceased, sensation and reason were restored, but there remained giddiness, pallor of the face, dilated pupils, coldness of the extremities, much weakness, severe rigors, and a slow feeble pulse. Further vomiting was promoted, and more of the root discharged. Friction and warmth were applied to the extremities, whilst ammonia and rum with thin gruel and other drinks were administered internally till reaction was more fully established.

Emetic doses of the sulphates of zinc and copper, and also mustard and water, were given without effect to the patients lying on the deck of the vessel. They were also bled very largely both from the arms and jugular veins. The introduction into, and removal of warm water from, the stomach by the pump brought away small portions of the noxious roots. Cold affusion upon the head perseveringly used lessened the struggling and produced some exhaustion. In three cases (Salt, Williams, and Burgess) the subsequent fits became less violent; they passed into a state of maniacal delirium, with much jactitation of the limbs, and after some hours were removed into the hospital. But in one more patient (Jones) all these remedies were ineffectual: he died convulsed at a quarter before 1 o'clock. As a last effort, the trachea was carefully opened by an incision, and artificial respiration kept up, but life was quite extinct.

Several of the men who had eaten the root, seeing the others suffer, took the salt-water emetic with success, and had no symptoms of being poisoned; others felt giddiness and faintness in a slight degree, and at 6 P.M. there were upon examination eleven who required watching, and were therefore sent into hospital.

Extracts from Notes of Cases in Hospital.

Feb. 4th.—Jeremiah Chamberlaine, æt.

24, admitted at 6 P.M. in slight stupor; countenance anxious, depressed; is drowsy; the eyelids half closed; pupils dilated; tongue clean; skin cool; slow pulse. Took a purging draught, and an enema of salts and senna, which produced two motions, the first principally the injection; the second, copious, fluid, brown, and mixed with white root, resembling what they had eaten.

Purgatives repeated, with magnesia.

10 P.M.—No motion; countenance improved; sleeping.

5th, 1 A.M.—Is sick, and looks worse; countenance anxious and sunken; pupils dilated; the hands and face feel warmer; complains of pain in his chest and abdomen, the latter is hard and tender; no further motion; tongue clean; pulse feeble; seems weaker.

Ordered Ammonia, &c.

3 A.M.—Is warmer; pulse stronger; sleeping. Bowels once opened.

10 A.M.—Countenance improved; mouth dry and parched; thirst; tongue slightly coated; tenderness, hardness, and pain in the abdomen; no further motion; no urine since midnight.

Purgatives continued.

4 P.M.—A sudden distension of the abdomen, with shortness of breathing; pulse 66; lies in a perfectly relaxed position; pupils dilated; no pain or headache, and no motion.

Purgatives and Enemata repeated, with Assafœtida.

Midnight.—Has passed one motion, copious, fluid, dark brown in colour, with pieces of the root discernible. No abdominal pain; urine thick, and dark-coloured.

6th, 8 A.M.—Is much better. Abdominal swelling and tenderness gone.

4 P.M.—Tongue white; pupils natural; urine plentiful, dark in colour, with a thick yellowish sediment; had three motions similar in character.

7th.—Tongue white, red at the edges, but recovering.

8th.—Pain in the head; bowels confined; tongue cleaner; urine free, dark-coloured, with sediment. Took castor-oil, which produced one copious fluid motion, yellow in colour, and in which the root can still be seen.

17th—Discharged recovered.

John Williams, aged 22, admitted 6 P.M. on 4th February, in the same comatose condition: sleepy; roused with difficulty; has had one motion, natural.

10 P.M.—Feels a pain in the breast. Has just vomited a dark-brown slimy fluid. Feels better, and his countenance improves.

Midnight, 2 and 5 o'clock.—Sleeping.

7th.—10 A.M.—Feels quite well. Has passed motions in which a small quantity of the root is seen.

8th.—Appeared quite recovered, and was discharged to duty.

9th.—Readmitted in consequence of an attack of syncope. Tongue slightly coated; no pain.

Ordered a calomel purge.

10th.—Had three motions, in the first of which the root was still seen, but the particles were much smaller.

Repeat the purgative.

17th.—Discharged recovered.

William Jeffs, aged 23, when admitted at 6 P.M. on the 4th Febbruary, had slight symptoms of coma and exhaustion, which went off after free purging, and as he seemed quite well was discharged on the 8th.

10th.—Readmitted faint and collapsed. hands and face cold; lips blue; headache and giddiness; tongue moist, slightly furred; injection of the eyes.

A Calomel purge.

At 4 P.M. had a copious yellow motion, in which the root is plainly seen.

11 and 12.—Slight fever, with pain at the pit of the stomach.

V.S. ad ℥xij. Purgatives and salines.

13th.—Still feverish. The pain in stomach gone; slight pain in the left side; urine plentiful, dark-coloured, turbid; bowels confined; abdomen rather hard.

Went on well till the 22d February, when the tenderness at the stomach was renewed, with giddiness, thirst, and pain in the right side under the ribs.

Twelve leeches were applied, and purgatives with salines continued.

23d.—Less abdominal tenderness; slight giddiness; fever subsiding.

March 3d.—Discharged recovered.

Joseph Salt, æt. 17, admitted Feb. 4th: though he continued in a state of delirium and insensibility, yet his exhaustion rendered it needful to convey him even with care in a cot to the hospital. At 7 P.M. he was restless, and with difficulty kept in bed; his lips livid; breathing hurried; pulse soft; skin warm; pupils dilated. When roused he did not speak, but stared vacantly, and seemed in a state of madness. The bowels moved involuntarily.

At midnight.—Not so restless; lies in a stupor, but when roused stares wildly.

5th.—At 10 A.M. more sensible; is very cautious before he drinks; bowels moved twice.

Noon.—Somewhat rallied, but still wild,

restless, and insane; the tongue cannot be seen; pupils natural.

4 P.M.—Quieter and sleepy. Being roused, he moans, and complains of pain in the left side; the breathing is laboured, but less hurried; the face flushed; the tongue, protruded with difficulty, is swollen, white, and blistered; a short cough; much mucus in the throat, raised with freedom; the tip of the nose very red; eyes natural; pulse soft, feeble, 78, much accelerated by slight exertion. The cutaneous sensibility greatly exalted: when touched he manifests great uneasiness; the slightest pressure on any part of the abdomen causes great pain; no hardness or distension; urine clear; penis retracted; the surface of the body cool. Being left alone he is soon asleep; moans and breathes heavily. Purgatives and enemata have been given with difficulty. He is now ordered magnesia, ammonia, and effervescing draughts.

6th, 8 A.M.—Looks worse; breathing short; face flushed; mouth parched; thirst. Great pain in the left side, it is very tender when touched; cannot bear to be moved, nor to drink any thing hot; tongue white, its edges ulcerated; much rattling of mucus in the trachea; pupils natural; pulse feeble; belly very tender.

Ordered twelve leeches to belly; blister to chest; purgatives — Castor-oil, Calomel, &c.

Evening.—Breathing laborious, hurried, with loud tracheal rattles; the tongue moist, white, its edges sore; pupils natural; face, nose, ears, and lips, excessively hot and flushed; skin hot; abdomen excessively tender; pulse soft, greatly accelerated. Lies in a state of stupor; sleeping much; expectorates a white frothy phlegm; desires cold drinks.

At midnight, and at 3 P.M. this day, passed motions dark-brown in colour, containing much mucus, and small pieces of the root.

7th, 8 A.M.—Slept at intervals, and seems better; less flushing in the face; breathing easier; tongue white; pulse fuller, about 100; tenderness of the abdomen. Had two motions: one, very bilious, contained smaller particles of the root.

Continue the Calomel Pill. Milk diet; demulcent drinks continued.

6 P.M.—Passed two motions this day; each contained many particles of the root. Breathing easier; less fever; belly tender; pulse soft, 120.

8th, 8 A.M.—Slept well; tongue moist, coated, red at the tip; belly extremely tender; hot skin; breathing easier; makes water with pain; the urine clear, high-coloured; no motion since yesterday; expectorates a heavy greenish-yellow matter; cough less frequent.

Castor-oil, with mucilage, repeated, and the antimonial mixture every two hours.

1 P.M.—No motion; belly very tender; increased flushing of the face and heat of skin; tongue white, rather swollen; pulse soft, 112; is hoarse. Pressure on the throat gives pain; it is sore when he swallows; frequent cough, with copious purulent expectoration.

V.S. ad ℥viij. Pergat medicamentis.

6 P.M.—Less fever; breathing easier; had one motion, light brown in colour; cough and expectoration frequent; micturition painful.

Low diet; blister to back of neck.

9th, 8 A.M.—Had one motion during the night; headache; great tenderness in belly and side; tongue coated white, its edges red; still hoarse; breathing easier; has fever.

Saline mixture every four hours.

9 P.M.—Had no motion to-day; abdomen tender; breathing much shorter; face flushed; skin hot; tongue white, red at the tip. Ordered—

Calomel, with Castor-oil mucilage, and Tr. Op. Hot fomentation to the belly.

10th, 10 A.M.—Sleeps much; face livid; pulse feeble, 120; breathing quick; still very hoarse; spits a large quantity of heavy purulent mucus; bowels not open; micturition easy.

Repeat the Calomel, with Castor-oil and saline mixture.

Noon.—The breathing more oppressed, and the countenance greatly congested.

Was bled to 12 ozs., and ordered Antimonial Mixture every two hours, and an Enema.

10 P.M.—Passed three motions containing much mucus; belly tender; is very hoarse; spits the same yellow matter, &c.

11th, 10 A.M.—Face congested; sleepy; breathing laborious; pulse soft, feeble, very frequent. Seven motions during the night.

Ordered a cordial draught; wine and sago, &c.

12th, 10 A.M.—Looks worse; face livid; eyes half closed; is sleepy, breathing short; is very weak; has diarrhœa; the belly very tender and painful.

Ordered wine and sago, and Carbonate of Ammonia; 1 gr. Calomel every two hours.

10 P.M.—Sleeps much; eyes very much sunk; breathing very short; cough; expectorates with great difficulty the same dark-greenish matter; is delirious; face more flushed.

13th, 10 A.M.—Still delirious; sleeps

much; slight mueous rattle in the trachea; cannot expectorate; is fast sinking.

Noon.—Much worse; rattling increased. Died at 3 P.M.

This young man was bled largely the first day, but during his subsequent illness the extremely irritable condition of the nervous system, and the severe bronchitis, prohibited active depletion.

The post-mortem inspection shewed that many important organs were very seriously injured.

The trachea and bronchi were injected, and the smaller bronchi filled with mucus. The left pleura was lined with lymph, and its cavity filled wtth serous effusion. The stomach and intestines were pink on their external surface, the intestines glued together by adhesive matter; and there was much peritoneal effusion, with flakes of adhesive lymph. The mucous membrane of the stomach and bowels was softened, thickened, and everywhere coated with an abundance of mucus. On washing this off, the membrane was much injected. The vessels of the brain were more injected than usual, and there was slight serous effusion beneath the arachnoid.

Abel Burgess: first fell convulsed on the deck of the vessel: was bled very largely, had emetics, the cold affusion, the stomach-pump, and subsequently stimulants.

Feb. 4th, 6 P.M.—Still slightly collapsed; loud rattles in the trachea; countenance anxious, depressed; complained of pain in his breast; breathing short; tongue swollen.

Ordered a strong cathartic, and an enema of salts and senna, with occasional doses of ammonia.

10 P.M.—Countenance improved; is warmer; the pain is more severe in the right side; the rattles in the throat louder.

Ordered a mustard-poultice, and as before.

Midnight.—The pulse stronger; pain in the head; more restless; breathing short. On admission he passed a natural motion. None since.

5th, 10 A.M.—Feels better; pain in the head; slight pain in right side; tongue clean, swollen; the rattles still heard. At 4 A.M. he had two motions, both of which contained much of the root.

Noon.—Is hot and feverish; the respiration hurried; pulse frequent and feeble; still complains of pain in the side; pain in chest gone; tongue red at the tip.

4 P.M.—Face swollen, flushed; eyes injected; pupils natural; tongue moist, clean; much mucus in the throat; coughs slightly, and expectorates with difficulty a reddish mucus; the cough gives pain in the region of the liver and in the head; pulse full, 120; thirst; abdomen soft, without tenderness; semipriapism. Passed a pint of urine, reddish, and depositing a copious white sediment; feet warm; the bowels not moved since morning.

Repeated the Enema.

6th, 8 A.M.—Bowels have acted, and he feels better, but still has pain in the head and right side; respiration hurried; slight rattling in the trachea; urine reddish.

8 P.M.—Respiration less hurried, but coughs more; rattling in the throat declining; expectorates a thick reddish mucus; pain in the side; urine thick, high coloured; had two fluid motions.

Ordered castor oil, and to take calomel every three hours.

7th, 8 A.M.—Passed a good night; four motions, partly bilious; abdomen free from tenderness; expectoration bloody; pulse frequent, soft; tongue white; skin warm; the rattles gone.

Continue calomel, &c.

6 P.M.—Breathing short and hurried; pulse 120; cough increased.

Bled to 10 oz. and continued the calomel.

8th, 8 A.M.—Has passed more of the root; breathing easier; cough and expectoration as before; tongue clean; urine dark in colour, with sediment; slight rattling heard this morning.

Antimonial mixture, &c.

1 P.M.—Has passed another motion containing some root; pulse 108, soft; on the right side of the chest there is dulness on percussion, the natural murmur wanting, a short bronchial sound; on the left side, sonorous rattles, the heart's action quick, weak, with a thrilling sensation communicated to the hand; tongue white; face flushed.

The bleeding repeated. Pergat cæteris.

6 P.M.—Breathing with more ease, but the right side still painful.

9th, 8 A.M.—Breathing easier; cough less; tongue clean; countenance improved; sputum less bloody; face not flushed; thirst gone; is very weak; there is great tenderness on the right side; has had one motion, thin, yellow in colour, mixed with black or dark brown specks, the remains of the root.

Ordered saline mixture every four hours.

10th.—Tongue moist; skin cooler; pulse soft, 90; breathing short: cough troublesome; sputum dark, but not so bloody; still a little pain in the right side; bowels not open.

Ordered castor oil, and a blister to chest.

10 P.M. — Cough distressing; breathing short; tongue coated, moist; expectorates a less bloody mucus; moans considerably.

Ordered antimonial mixture every two hours.

11th. — Breathing short and difficult, especially when he is moved; cough troublesome; tongue clean, moist; skin not so hot; sputum less bloody; had nine motions during the night.

Suspend the antimony; give him a cordial draught and salines.

12th, 10 A.M.—Breathing easier; cough troublesome; expectoration copious; a pain in the right side; tongue clean, moist; abdomen tender; had four motions.

Ordered 1 grain of calomel every three hours.

13th, 10 A.M.—Breathing more oppressed and difficult; countenance anxious; is restless, endeavouring to get up; face a little flushed; tongue clean and moist; is drowsy; the pain in the right side has increased; expectoration very copious, loose, and less bloody; urine plentiful, and still thick; had two bilious motions in the night; feels himself worse.

Ordered to continue the calomel, and a blister.

8 P.M.—The cough and breathing easier; countenance improved; expectoration easy, and becoming white; has passed three bilious motions.—Pergat.

14th, 10 A.M.—Is worse; breathing more difficult; pulse feeble; features anxious; expectoration easy and copious; rattling in the trachea; tongue clean, moist; had one motion, dark and bilious.

Ordered wine and sago, and to continue the calomel.

6 P.M.—Approaching delirium; restless; pulse very small and feeble; breathing short; countenance anxious; had three motions during the day, dark and greenish.

Ordered ammonia and stimulants.

10 P.M.—Appears to be fast sinking; the countenance pallid; eyes half closed; cannot lie down; loud mucous rattles in the trachea; expectorates with great difficulty.

Ammonia and wine freely.

Midnight.—Still sensible; much weaker; rattles louder; breathing shorter.

15th.—Sat up in bed till half-past 2 A.M., when he laid back on his pillow, and instantly died quite easy.

On examination of the body there was found a considerable development of the papillæ at the root of the tongue, and of the mucous follicles throughout the œsophagus, stomach, and intestines. The surface of the mucous membrane was lined with a tenacious secretion, which, being washed away, presented the membrane itself, thickened, softened, and more than usually vascular.

The lining membrane of the trachea and bronchi was deeply injected, the smaller tubes being choked with a frothy bloody mucus. The lower portion of the right lung in the state of red hepatization. Both lungs were heavy, contained much blood, and interspersed throughout their substance, but especially in the right, were various spots of ecchymosis from extravasated blood—probably effused during the primary convulsions.

The right pleura was adherent, and lined with the products of recent inflammation; and in the back of its cavity there was considerable serous effusion lying upon a surface covered with fibrinous lymph of a pale straw colour.

The pericardium was largely distended with a greenish coloured serum.

The vessels of the pia mater were fuller than usual. The brain was not unhealthy; it presented rather more bloody points, and there was also slight serous effusion.

In this, and the former patient, the tremendous shock which the powers of life had sustained by the first direct operation of the poison, and probably its continued influence in proportion as it was digested in the body, appeared to render the state of reaction one of peculiar irritability and danger. There was a tendency to swooning and collapse; a variableness in the condition of the pulse, the respiration, countenance, and temperature, that seemed to prohibit further depletion till two or three days had elapsed; and the local inflammations which successively arose in different organs were not afterwards controlled by the liberal use of the ordinary remedies.

The remaining patients did not suffer any urgent symptoms: under the free use of purgatives they passed considerable quantities of the root, and were in a few days discharged.

Examination of Wilkinson (No. 1), 47 hours after death.

The appearance of the body very stout and muscular; extremely rigid; the fingers stubbornly contracted; the thumbs turned in upon the palm; the nails blueish. General lividity, not very intense, but in patches anteriorly, while the whole dorsal surface presented a deep purple hue, except in the hams, where the hue was redder, and on the parts subjected to pressure, as the scapulæ and nates, over which it was absent. The scrotum and penis slightly livid; the former not distended.

The countenance livid, somewhat swollen, especially beneath the jaw; the eyelids somewhat open; conjunctivæ slightly congested above and laterally; slight opacity of the cornea; the pupils dilated, the irides being about a line in breadth; the lips, gums, and ears purple; a frothy secretion filled the nostrils; the tongue bitten at the tip, with an appearance of blood between the teeth.

The chest flattened, contracted above, duller than usual on percussion; there was unusual distension and resonance of the abdomen, especially in the epigastric region.

On dividing the scalp, fluid blood escaped more freely than usual; the pericranium natural; the skull very thick: on the interior of the skull were a few injected veins: the dura-matral surface was thought to be not much injected; the longitudinal sinus contained only fluid blood, not the slightest trace of a coagulum. The veins of the pia mater had a natural appearance; they certainly were not distended, as they did not reach a level with the top of the convolutions. Not more than the usual quantity of blood in the sinuses, but it was of a very black colour and perfectly fluid. There was a slight degree of serous effusion, a clear gelatinous deposit under the arachnoid, and some globules of air were seen in the veins. The processes of pia mater dipping between the convolutions were darker than usual; the plexus choroides also darker, being of a plum or damson colour. The cortical structure of the cerebrum was not redder than is usual in recent brains; more bloody points were seen in the centrum ovale; no serum in the ventricles; some veins were ramifying on the corpora striata; the substance of the corpora and thalami were thought to be slightly redder than usual. The veins and sinuses beneath the posterior lobes of the cerebrum were fuller; the veins on the pons varolii, the medulla oblongata, and about the roots of the nerves, turgid. The substance of the cerebellum, pons, and medulla, was somewhat redder than usual. On dividing the veins and arteries of the spinal marrow, a quantity of fluid blood flowed into the base of the skull. No water at the base.

The veins beneath the integuments of the back were congested. On opening the vertebral canal the theca spinalis had a reddened appearance; the vertebral vessels were injected; the veins and sinuses filled with black fluid blood; the substance of the spinal marrow, especially its internal structure, redder than usual; at the lowest portion, in the lumbar region, there was a little serum.

The tongue was large, and covered with a white fur; the papillæ at the base remarkably elevated and vascular; the soft palate, tonsils, and pharynx, covered with a glairy mucus, and presenting a general blush of dull and somewhat livid vascularity, deepest in those parts where the fluid gravitated, as in the little cavities between the epiglottis and the tongue. The epiglottis dull, with vascular lividity, turgid veins being seen upon it. The pharynx and œsophagus had a white appearance, contained some mucus, and portions of the root.

The trachea and bronchi were lessened in diameter, appearing contracted, and the lining membrane intensely injected with dark blood. This injection was partly concealed by a thick smearing of reddish mucus, which also filled up the smaller bronchial tubes. The lungs were purple and heavy, being gorged with fluid blood; and there were several recent small extravasations of blood scattered through their substance.

The stomach and intestines externally were pink in colour and distended with air; the stomach also contained a little fluid, some of the root, and was, with the intestines, every where lined with a thick viscid mucus. The mucous membrane was thrown into folds, forming prominent ridges, intersecting each other like meshes. After washing away the mucus, when the membrane was placed under water its surface had a mammillated appearance, the follicles being particularly distinct, erect, and abundant. Held up before the light, the pink colour of the tunics deepened by the action of the atmosphere upon the dark blood in the vessels; there were also minute points of extravasation, and dark lines in the course of the venous trunks.

There was a geeat deal of mucus, and minute portions of the root in the small intestines, especially in the lower part of the ilium.

The state of the heart was natural, but the blood found in it, and also in the great vessels, was very black and fluid.

No trace of decomposition had occurred.

The second body examined was that of Peter Knight (No. 2), which presented similar external appearances, and was thought to be equally livid, but had somewhat less muscular rigidity.

A greater quantity of blood than is usual flowed from the incisions made in opening the head and spine. The principal abnormal circumstances noted on this inspection were the veins of the pia mater very much distended, causing extensive arborescence both on the surface and between the convolutions of the cerebreum. The plexus choroides had a dark damson colour, the velum interpositum much injected, and many vessels ramifying upon the corpora striata. The veins of the cerebellum, at the base of the brain, and the basillary veins, were also in an equal degree distended. The tentorium was extremely blue in colour, not from extravasation, but from great injection.

The substance of the brain in all its parts was more vascular, and exhibited more bloody points in the sections, as did also the pons varolii, medulla oblongata, and spinal marrow. The roots of the nerves were also red from injection; the sinuses of the spinal marrow gorged. About two drachms of serum in the ventricles; four drachms were collected at the base; and there was also general, but not great, effusion under the arachnoid.

A slight contusion on the soft palate had resulted from the passage of the stomach tube, but the whole of the throat, the root of the tongue, the glottis, and epiglottis, were much reddened; the follicles at the base of the tongue were particularly large and prominent. The œsophagus reddened through its full extent; at the lower end the cuticular lining with its fimbriated edge particularly evident.

The glottis and sacculus laryngis were lined with frothy mucus; the trachea most intensely injected of a deep purple almost black colour. The bronchi were similar in colour, and plugged by mucus. The lungs were very dark, extremely congested, and in many places apoplectic effusions had occurred.

The peritoneal coat of the stomach had a pink colour, especially intense about the cardiac orifice. Large black veins were running along its lesser curvature, and branching down its sides. The mucous membrane thickened thrown into large rugæ follicles prominent with vascular apices, and of a pinkish colour, pylorus contracted: there was much extremely viscid mucus strongly adherent. The state of the intestines similar to that described in the last case.

The body of "Wilson" (3) was also examined, and we noted in the head and spine the same appearances.

In the mouth and throat, the papillæ of the tongue remarkably enlarged. In the fauces, pharynx, and larynx, a remarkable vascular lividity, most intense about the epiglottis and soft palate. The sacculus laryngis and trachea contained frothy mucus; the lining membrane of the trachea also highly congested, thickened, and presenting the same characteristic, though rather less distinct, appearances than the others.

There was an accidental effusion of blood behind the œsophagus, and between its tunics at the lower part. The stomach contained a pint of turbid fluid, with some portion of the masticated root. The stomach and intestines both exhibited the same pink colour externally. The bronchi were likewise congested. The lungs were extremely livid; fluid blood and serum freely flowed from every incision. In some parts the congestion was as great as in cases of pulmonary apoplexy. The follicles in the œsophagus and stomach very distinct. There was a large quanlity of viscid mucus in the stomach, especially near the pylorus.

The only difference noted on the inspection of the body of Jones was the presence of a layer of extravasated fluid blood beneath the pia mater covering both hemispheres of the cerebrum. The colour of the membranes was quite blue. The effects upon the other organs were quite answerable to those already related in the other cases.

From what has been related, it appears that the effects which the œnanthe produced in these cases were a violent irritation of the mucous membrane of the œsophagus and stomach, more particularly of the follicular structures, and a state of severe and universal spasm of the muscular tissues; it also induced insensibility, coma, delirium, extreme congestions of internal organs, and, in those cases immediately fatal, it occasioned permanent fluidity of the blood.

The first indication of treatment was doubtless to evacuate the stomach; but, as its sensibility was destroyed, and the poison was taken in the solid form, this could not readily be accomplished. Large and immediate depletion seemed to be essentially useful, by removing the imminent danger of extravasation from over-distension of the vessels; the cold affusion was also beneficial in rousing the patient, so as to make him sensible to the emetics, and so were purgatives during the after treatment.

Called thus in a moment to so many urgent cases of poisoning, it became needful to use such remedies as were at hand, but upon reflection it seems to me proper, in similar circumstances, to rely chiefly on emetics given early, on large blood-letting *immediately* employed, and the cold affusion.

Although the attempt to re-establish respiration by tracheotomy failed in the case selected for it, in consequence probably of the great effusion of blood afterwards found on both hemispheres of the brain, yet it is worthy of a future trial in single cases, where it can be more conveniently practised.

Considering the great activity of this poison, that it is capable, as we have seen, of extinguishing the life of a strong young man in full health in *one hour*, and that many other fatal cases are recorded, it is rather singular that the nature of the active principle of the œnanthe is not yet well known, or the plant applied to medicinal use.

Woolwich, April 24th, 1844.

ON THE DECREASE OF DISEASE THROUGH THE PROGRESS OF CIVILIZATION.

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(For the Medical Gazette.)

[Continued from p. 187.]

Hydrophobia is on the whole a very rare disease; in many places it is known from hearsay only*; in others, again, it has undoubtedly its occasional victim†. As all means have hitherto been found unavailing against this disease when once established, there is the greater reason in every degree of precaution that can be taken against it. The prophylaxis of hydrophobia is of different kinds; that in which the bitten part is excised, is, however, the only one that experience suffers us to rely on as in any way effectual. Lap-dogs, and indeed house-dogs of all kinds, appear to be more subject to the disease than the animals that are kept for field sports; and this has led to police enactments in different countries calculated to repress the number of useless curs. In ancient Argos, during the dog-days, the festival kynophontis was celebrated by the public sacrifice of a number of dogs‡. It were no impolitic measure to have recourse in these times to some solemnity of the same kind when it seemed that the taste for dog-keeping was getting the better of the common sense of the community, of that consideration for the general safety which ought to be paramount.

Delirium tremens, or the drunkard's madness, must, of course, be viewed as a consequence of the modern art of distilling ardent spirits, an article of which such destructive quantities may now be procured for so small a sum of money, that debasement and self-slaughter may fairly be said to be placed within reach of all. But the disease of drunkenness appears happily to have passed its acmé; the general reprobation of the practice of indulging in intoxicating liquors, conviction of their degrading and destructive effects, and the consequent diminished consumption of these among the educated and wealthier classes, and even, (and that upon moral and religious grounds,) among the labouring orders of the community, all gives us hope that the evil will be still farther diminished, if it do not seem very probable that it will never disappear entirely*.

The *tremors* and paralyses from which water-gilders and other artizans who use quicksilver in their handicrafts occasionally suffer, have lost much of their obstinacy since the powers of chalybeate medicines taken internally and administered in the way of both were recognized. And then the late discoveries in electro-metallurgy by which almost every article may be silvered and gilt in the most perfect and substantial manner, by means of the galvanic battery, will unquestionably

* Heberden, writing after more than forty years' experience, says that he had never seen hydrophobia from the bite of a rabid animal (Commentaries, sub. voc.); and Stieglitz assures us, that during a practice of thirty-six years he had only *heard* of a single case of the disease.

† From Hoffmann's summary (Prussian Medical Journal for 1835, No. 45), it appears that in Prussia 266 persons had died of hydrophobia in the course of six years; which is at the rate of about 3 per million of the inhabitants.

[The writer quoted, if I remember rightly, ascribes the relatively greater frequency of hydrophobia in the Prussian dominions than in other European states, to the number of wolves that still exist in the countries that form their eastern boundaries. A physician in fashionable practice, like Heberden, might live a century in London without seeing hydrophobia, and the disease present itself there several times nevertheless. Six months seldom pass without a case occurring in one or other of our great metropolitan hospitals. In the year 1842, I find, from the Registrar-General's Fifth Annual Report, that *four* persons died of this awful disease in the metropolis, the population being reckoned at 1,875,493.—Eng. Ed.]

‡ Müller, The Dorians, i. 346.

At Kertch, in the Crimea, there is a gipsy charged with the duty of clearing the streets of stray dogs. He draws a dead dog through the town, and all the animals who approach to look are put to death forthwith. He has 25 kopecks for every head he delivers to the authorities (Demidoff, Voyage dans la Russie, t. i., p. 552, Paris, 1840.)

* The northern nations of Europe have long had a standing reputation for drunkenness. The habit of indulgence is said to be on the decrease in Russia.

[In England, and particularly in Ireland, drunkenness has received a notable check through the labours of the modern apostle of temperance, the Rev. Mr. Mathew. Honour to the man who dedicates his life and his energies to a cause so holy as the inculcation of the innumerable blessings that flow from temperance! In London, great numbers of the keepers of public-houses die of delirium tremens. I have attended many to their end from this cause; and could point out several houses where the mistress has had three husbands within ten or twelve years: the husbands drink themselves to death; the widows are prizes for some frequenter of the house, who, once installed as landlord, follows the example of his predecessor, and is by and by laid side by side with him under the sod, when, of course, the widow is again free to choose another helpmate.—Eng. Ed.]

lead to the entire rejection of quicksilver in all operations of the kind.

The *painter's-cholic*, or dry belly-ache, is another disease that vouches both for the progress of general knowledge and of medical science. It is much more rare than it was in former ages of the world; and it is also treated when it occurs with infinitely greater success than it used to be. The practice among the ancient Romans to boil the must of their grapes in leaden vessels, and then to add the syrup thus obtained to other wines with a view to preserve them, was in all probability a principal cause of the severe attacks of cholic to which they appear to have been subject. In articles of domestic use tin has now almost wholly superseded lead; in our white-lead manufactories many improvements have been introduced, by which the workmen are protected; and despite the quantity of this article employed by house painters, they are now so well aware of its noxious effects, that they take care, by wearing gloves and washing their hands particularly before they set themselves to their meals, that none of the article shall be swallowed; cases of lead poisoning are therefore even rare among them;—occasion has already been taken to state that if they do became affected, the treatment of the accident is so well understood, that its consequences are not greatly dreaded. A very great improvement in regard to this class of artizans would undoubtedly be the introduction of the *white zinc*, which has been much recommended, in lieu of the white lead, which has hitherto been regarded as the basis of almost every pigment.

Congestions of blood to various organs or systems of organs—to the head, chest, or abdomen, are commonly reckoned among the number of evils which our civilization induces, and that from over-work of the brain, from stooping, and other uneasy positions of the body, from labour carried on in confined atmospheres, from sluggishness of the bowels induced by sedentary occupations, from the use of considerable quantities of stimulating and highly nutritious food, without sufficient exercise, &c. In assenting to all this, we can still affirm that disease induced by these causes is not very formidable, and does not appear greatly to influence the average length of life of the community.

Hemorrhoids is probably the disease of a congestive kind which is most extensively produced by the series of causes indicated; but if the mucous membranes and blood-vessels of the alimentary canal are apt to be more seriously implicated in consequence of our social usages, than in the barbarous state, it is still quite certain that hemorrhoidal affections occur even there; and under any circumstances they are allowed frequently to act beneficially rather than otherwise, and to serve as abating states of repletion, which falling upon other organs might have more serious effects. Hemorrhoids are seldom fatal; and, indeed, when they are habitually troublesome, they can mostly be referred to some taste, such as the constant use of strong wines or ardent spirits, against which true civilization raises her voice as emphatically, as barbarism sanctions the indulgence*. Hemorrhoids have no ulterior influence; they produce no seeds which necessarily germinate and take root in the organism; it lies mostly in the option and within the power of the individual to determine whether he shall continue to be troubled with the inconvenience, or get rid of it altogether.

Stone is one of the diseases that is certainly not so frequent now as it was in former times. The number of operations performed for its relief now by all the surgeons extant, do not seem to equal those that were done by single celebrated lithotomists in bygone ages. Since the habit of tea-drinking has become general in Holland, stone, which a couple of centuries ago was an extremely common disease, has become a very rare one. Half or three quarters of a century ago, stone used also to be exceedingly common in the city of Boston, United States; but the practice of consuming large quantities of punch at all social meetings in that intellectual city, having given place, as in Holland, to the innocent infusion of tea, stone is now a very rare disease. And, then, the treatment of this formidable distemper has certainly been much improved: chemistry has been

* Hæmorrhoidal complaints appear to be much rarer in South than in North Germany, in Southern than in Northern Europe generally; and this, apparently, in consequence of the much smaller consumption of ardent spirits in the former than in the latter. In Petersburg, Attenhoffer (Med. Topogr. of St. Petersburg, p. 222) informs us, that of four adult males, three will be found affected with piles.

unwearied in its efforts to find solvents for calculi of different kinds; and if all that we could wish has not yet been accomplished, still something has already been done, and it seems almost certain that much more will yet be effected. The discovery of the strong affinity of the earth lithium for uric acid has but just been made, and will certainly prove important. Further, patients are no longer subjected to an operation which necessarily brings their life into jeopardy, that they may be delivered of a calculus no larger than a coffee or a kidney bean; concretions of this size are seized and reduced to fragments in their seat, almost without risk to the individual. Still farther, a procedure by means of gradual dilatation of the natural passages, and without the use of any instrument more formidable than a lancet, has been revived, has been successfully instituted in several instances, and bids fair by and by to supersede the old operation of lithotomy.*

Scirrhus or *Cancer* is another of the diseases which has hitherto either defied all the resources of art, or against which only the most painful procedures, or distressing mutilations, have been held of any avail. The principle of equal pressure, suggested by the ingenuity of a gentleman who to consummate skill in his profession adds the accomplishments of a profound mechanical philosopher—Dr. Neil Arnott—promises to render recurrence to surgical operation unnecessary in the majority of cases. If it will not counteract the fault in the constitution upon which cancerous disease so commonly depends, neither, it is now admitted, does removal by means of the knife of the particular part affected exert any influence of the kind. By preserving the integuments entire, however, for a much longer period than could have been obtained under the old mode of treatment, this new plan of dealing with scirrhous swellings will undoubtedly prolong life; and then by soothing pain, which it does in the most remarkable manner, it renders the use of narcotic and poisonous drugs unnecessary, and so contributes in another way to the comfort and well-being, and general health of the patient. One of the varieties of this formidable disease, the *chimney-sweepers' cancer*, will probably disappear with the cruel usage of employing children to sweep chimneys.

The class of *inflammatory irritations*, and of *proper inflammatory diseases*, probably presents the variety of character we witness, and meets us so frequently as it does, in consequence of our civilization having spread from the milder climates of Asia and the south of Europe towards the colder and more inclement north. The habits and usages of the land of our nativity are not readily laid aside; and it would even seem that the system habituated to one of the warmer climates of the earth, transported to a colder country, does not begin at once to feel its influences; it is familiarly known, for instance, that the natives of this country who have passed a considerable number of years in India, on returning home rarely feel the effects of the changeable climate of Great Britain for a year or so after their arrival. To look at the fashion of dress which obtains among our women, in the house especially, no reasonable being would ever imagine that we were dwelling in one of the most variable climates in the world, subject to the most strange and sudden alternations of temperature—blown upon to-day by the warm breath of the south, to-morrow assailed by the sharp tooth of the north; surrounded by an atmosphere generally loaded with moisture, and covered by a sky which, for so many days in every year, denies us the sight of the genial sun; and where erysipelas, catarrhs, and rheumatisms are so rife, scrofulas and consumptions so truly indigenous. Still, let us not overlook the truth, in our anxiety that things were better and more reasonably ordered than they are, that here, too, civilization, with her manifold means and appliances,—convenient clothing, commodious houses, regular exercise both of body and mind, by which either order of powers is strengthened,—steps in, and seems to bid defiance to mere climatic influences, and obviously accomplishes infinitely more than could be done by the rude son of nature, dwelling in ignorance and dull indifference: those countries that once constituted the outermost verge of the habitable globe are now centres of the arts and sciences that most ennoble man.

* See the whole of this interesting subject discussed in a work entitled: On the Treatment of Stone by Means Medical and Mechanical, by R. Willis, M.D. 8vo. Lond. 1842.—Eng. Ed.

The disease which attracted so much attention some few years ago, under the title of *Egyptian ophthalmy*, is nothing more than a severe catarrhal inflammation of the eyes, in which the natural mucus becomes purulent and irritating, and, at the height of the disease, infectious. The ancients were familiar with this disease, and there is no reason to apprehend any thing from its spread, so long as its contagious character is duly kept in view.

Croup, which so lately was the terror of parents, and which, in its virulence and frequency, seemed a product of recent times, the bane of our social condition, the effect of the mode of bringing up our children, has already lost much of its serious character. The experience now possessed of the admirable power of emetics, used at an early period of this formidable disease, to control its progress, enables us to meet it without so much solicitude for the result as we used to feel, and no longer to look on it as one of the evil spirits evoked by the present times*.

Whether civilized communities are more subject to pure inflammations than uncivilized tribes, may fairly be questioned: persons who are well fed have been held more subject to inflammations than the indifferently nourished, because, as it is said, they are more plethoric and excitable; but this is very questionable. Persons in the high health which abundance of wholesome food implies, resist causes of disease that seize upon less robust and healthy individuals, and make them their victims†.

Febrile diseases, whether of an inflammatory or a nervous type, have lost much of their danger and deadly tendency, since their nature has been more carefully studied, and the circumstances that favour their production have been recognized, and either lessened in force or removed entirely. The treatment of this class of diseases is also much better understood than it used to be; the insufficiency of the old heroic or very active means of dealing with fever is now admitted; we no longer attempt to subdue the disease; we rather look to carrying the patient safely through the several phases of the malady; and in the majority of instances, under somewhat favourable circumstances, we reckon with confidence on seeing him by and by restored to his former strength and efficiency. The worst forms of fever, too, it must be allowed, are rarer than they used to be; some countries seem even to escape them entirely; in others, however, they prevail with unabated virulence. In the latter case the merit of circumscribing them is by so much the more. Egypt and India appear neither to engender typhus, nor to have any power of propagating its contagion*. Ireland, on the contrary, is periodically ravaged by the disease, and proves a very hotbed for its production and extension. But it is even here that we obtain a distinct view of what the zeal and devotion of the medical practitioner can accomplish with very little encouragement from government, and even less from the sufferers themselves†.

It is difficult to say wherefore certain countries and seasons have suffered so much, others so little, from epidemic fever. Civilization very certainly has no part in the infliction; all her efforts are, on the contrary, directed to rendering what are presumed to be the causes of fever ineffectual. The ancients have

* The malignant or gangrenous inflamed throat, an old disease, but which was particularly rife about a couple of centuries ago (Sprengel, l. c. iv., p. 486), has become so rare that it now scarcely ever presents itself, save occasionally, and as an exception to the rule, in connection with bad forms of scarlatina. This exudative inflammation of the throat is, however, certainly a very formidable disease when it occurs. The passage in Galen (De Locis Affectis, lib. i.) which has been supposed to refer to croup, is extremely obscure.

† Sir Gilbert Blane states that he observed our English sailors to be more subject to inflammations in 1814 than formerly, and this because they were better kept and more healthy. [The passage to which our author alludes (Dissert. p. 24) is evidently pure hypothesis. It is certain that diseases of every description have greatly diminished in the Navy. Long voyages through every variety of climate are now performed without the loss of a man.—Eng. Ed.]

* Sir J. M'Grigor, who accompanied the detachment of British troops from India to Egypt during the occupation of the latter country by the French, observed no well-marked case of typhus in Egypt, and in India he never saw one. When the disease broke out in transports on the voyage out, and raged severely, still the disease did not reach India. When it was brought on shore it never spread. Sir James says: "A second case never appeared on shore; and, on inquiry, I found that no case had ever been known on the western side of the Peninsula, nor have I ever heard of its existence in the eastern." —*Medical Sketches*, p. 169.

† The Historic Sketch of the Causes, Progress, &c., of the Contagious Fever in Ireland, of W. Harty, M.D., Dublin, 1820, may be consulted for much excellent information on the points touched on in the text.

scarcely left record of their experience in any save the malignant nervous forms of continued fever*. The Arabians were well acquainted with the adynamic or low typhus, and treated it with refrigerants†. But a long interval elapses before we find this form of disease mentioned again; and even in very recent times physicians have been found who maintain that it only made its appearance towards the close of the last century‡.

The *petechial typhus* accompanied with severe head symptoms, or typhomania, is now much rarer than it was in former ages§. The sweating sickness, which occasioned such havoc in England in the course of the 15th and 16th centuries, has either long ago disappeared from the face of the earth, or has a character of mildness which makes it unregarded‖.

The remembrance of the Hungarian fever, which presented itself with the nervous putrid character, but accompanied with severe cramps of the stomach, and spreading by contagion, is only preserved as matter of history¶.

Plague, which, under the title of black death, spread like the destroying angel over the face of the inhabited earth in the middle of the 14th century, which in the 17th century committed such fearful ravages in many cities, particularly London* and Vienna, which, in the beginning of the 18th century, swept away nearly one-third of all the inhabitants of Brandenburg, and one-half of those of the city of Dantzic, and which even in these days keeps hovering upon the confines of our European civilization, ready to break in upon us were opportunity afforded it—plague, which has lost nothing of its destructive power, is fairly kept at bay by civilized man†. Whilst the nations to whom the Koran serves as guide in faith and practice sit contentedly looking on at the almost ceaseless havoc which this scourge makes among them, see unmoved how the consuming fire, scarcely quenched, is again rekindled, and burns as vigorously as ever, fed by the old materials; regard it as decreed of unchangeable destiny that they and theirs, the nearest and the dearest to them, should be carried off in crowds; in their infatuation as to consequences, appropriate the goods and chattels of the deceased, and show themselves in the very garments which had been stripped from the victim of plague; and in their treatment of the destructive disease, pin their faith upon mummy, bezoar, amulets, and such other fanciful remedies; Christian nations, on the contrary, use every reasonable measure of precaution against the scourge: they hold no communication with the diseased; they are unwearied in their cleansings and purifications, and, by diet, and the means that scientific medicine indicates, do all that seems right and proper

* Vide Ochs Artis medicæ principes de curanda febre typhode, Lips. 1830; Wawruch, Antiquitates typhi contagiosi, Vindob. 1812; Marx, Origines Contagii, and Häser's Historic Pathological Inquiries (in German), Lips. 1839. Dr. W. Falconer drew a parallel betwixt the *νόσος καρδιακὸς*, the morbus cardiacus of the ancients, and the nervous fever of the moderns (Mems. of the Med. Society of London, Vol. vi.

† Sprengel, l. c. p. 367, 379, et 396.

‡ Rush, for instance, says (l. c. p. 85): "The nervous fever has become so familiar to us, that we look upon it as a natural disease. Sydenham, so faithful in his history of fevers, takes no notice of it. Dr. Cadwallader informed me that it made its appearance in this city (Philadelphia) about five and twenty years ago."

§ Diseases appear to be ever the same, though greatly modified by the circumstances in which they appear. Some eight, ten, and twelve years ago, most of the cases of continued fever we encountered in the metropolis, and they were rife, were accompanied with an eruption of petechiæ upon the breast. This fever has, in fact, preserved the same type almost up to the present time.—Eng. Ed.

‖ The epidemics of sweating miliary fever, which they have had in France upon more than one occasion of late years, were probably of the same nature as our old English sweating sickness; but they differed from it essentially in the small ratio of mortality. (Vide Rayer, Hist. de l'Epidemie de Suette Miliaire qui a regné, &c. 8vo. Paris, 1822.)—Eng. Ed.

¶ In Breslau more than 18,000 persons died of this fever in the year 1758. Süssmilch, l. c. vi. cap. 9. [Camp fevers, and beleaguered town fevers, attend upon every war, and are far more destructive than the swords and bullets of enemies. The mortality of the British Peninsular army is said to have been 36 per cent.; but of this number not one-half—not more than 15 or 16—died from accidents in the field. In the war in Ceylon, under Gen. Brownrigg, when Candy was taken, the mortality amounted to 45 per cent. of the force employed; but not more than half a dozen men were killed by the enemy; fever, on the other hand, slew its hundreds: exposure in a battle of Waterloo is scarcely so hazardous to the common soldier, as a year's quiet residence in the Island of Jamaica.—Eng. Ed.]

* In the year 1665, 70,594 persons are said to have died of plague; the year after this the great fire of London *happily* occurred, and since then that great city has known nothing of this pestilence. In 1679, Vienna was nearly depopulated by plague, and Augsburg lost one-fifth of its inhabitants from the same cause in 1635.

† Vide Tully, History of the Plague as it has lately appeared in Malta, Gozo, Corfu, &c. Lond. 1821.

to escape; and this with such success that the enemy may fairly be said to be kept at bay. Whilst under our quarantine regulations every attention is paid to the comfort and well-being of travellers and navigators, the safety of the community, being still held the paramount consideration, is never compromised. The most active traffic, both by land and sea, can thus be carried on almost without interruption; for a few days' or even weeks' demurrage is a very small price paid by individuals for the assurance both of their own safety and of that of the nation to which they belong*.

It would even seem as if the unwearied admonitions of more enlightened powers, and the influence of example, were to prevail at last with the Turks, that in the native land of pestilence the voice of fatalism was about to lose its sway, and the dictates of sense and foresight to be listened to, in the establishment of an efficient medical police. The hopes of all the friends of humanity, that the time might come when these ignorant men should participate in the blessings of civilization in gaining immunity from plague, are certainly approaching fulfilment.*

[To be concluded in our next.]

* Gosse, in his remarkable paper on the reform of quarantine regulations, (Biblioth. univers. de Genève, T. xlii., p. 46, et seq. 1842) endeavours to show that a quarantine of a fortnight in reference to plague, and one of six days in respect of yellow fever, are quite sufficient, He expects that the effect of civilization will be to circumscribe in a continually increasing degree the empire of contagious diseases. Leprosy, syphilis, small-pox, and plague, vouch for the beneficial influences of our social improvement; they are not now to be compared in point of intensity with what they were in former times. If any one asks, wherefore these diseases have shown a disposition to become more simple, and even to disappear, let him be answered in these words: Because of the influence of civilization and medical science, the progress of reason, and of the healing art. A well-informed writer in the October number of Forbes' British and Foreign Quarterly Review, 1843, is of opinion that the period of incubation of the plague is ten, at the most fifteen, days. It is by no means necessary to look on whole countries as infected because particular places of them are the seat of plague.

† M'Grigor, in his Sketches (p. 102), has these words:—May we not indulge a hope that as the intercourse of civilized Europe with the countries of which the plague is now the source, becomes more regular and intimate, we may be enabled to extend to them our discoveries and improvements, and so direct them to the means of divesting the plague of its terrors, and reducing the mortality from it to that from fever and the small-pox in Europe?

ON

DISARTICULATION AT THE ANKLE.

(In a Letter to Prof. Syme, of Edinburgh.)

By William Lyon, Esq.

Lecturer on Surgery, and lately one of the Surgeons to the Glasgow Royal Infirmary.

Dear Sir,

Conceiving that you may be gratified and interested by the details of a case in which, led by your recommendation and example, I lately practised disarticulation at the ankle, I beg to transmit the following particulars, and hope to be excused for thus addressing you.

The operation proposed, if not practised from a very remote period (see Med. Operatoire, par Velpeau, ed. 1832, tom. i. p. 476, art. Amputation du Pied en Totalité), is not, I think, so perfect as that you recommend: at all events, we are indebted to you for its re-introduction, recommendation, and performance. So far as can be judged from the results in your two operations, and in my own, I incline to the belief that this procedure is less severe in its immediate effects, and consequently less dangerous, than amputation in the lower third of the leg: but, besides, the longer lever which is left after it, enables the patient to move the member forcibly and actively, and to bring into play in the most effectual manner the apparatus requisite in walking: the broad articular surface likewise allows the weight of the body to be thrown on the soft tissues covering the face of the stump, without causing pain or risking ulceration, while farther immunity from the effects of pressure on the same part is obtained by the thickness and density of the tissues forming the flap. For these reasons I have scarcely a doubt but disarticulation at the ankle will frequently supersede amputation in the leg, and become one of our common operations; but as our experience of it is very limited, I hope the additional example of my case, and the circumstances attending its progress, may, through you, be useful to other operators.

The patient, who is 20 years of age, was under my care in the hospital while I was lately acting as surgeon. He entered with incipient strumous osteitis of the anterior tarsal and metatarsal bones of the right foot. The affection advanced, in opposition to all the usual practice, and he was dismissed

with a recommendation to reside in the country. He called upon me about seven months since, reduced in strength, his health much impaired, and the disease in the stage of caries, probably with morbid deposition. The os calcis and astragalus being, to appearance, sound, Chopart's operation was proposed, but was declined. The patient returned a month ago—having, in the interim, most assiduously used the cold-water cure! the disease aggravated, the os calcis and astragalus involved, and the health and strength farther impaired. He was now willing to submit to any thing. But Chopart was of course out of the question; and having always, in amputations of the upper and lower extremities, operated as low as possible, in order to obtain the smallest wound, and the most serviceable stump; taught, in addition, by your experience and recommendation, and by my own observation of the effects of amputation in the wrist and elbow; I determined, as the extremities of the tibia and fibula seemed unaffected, to disarticulate at the ankle.

Guided by your precepts*, the operation was easily and quickly executed. The cartilage covering the tibia was healthy, but the malleolar processes were so soft as to excite the fears of some of my professional friends present. Similar conditions of bones are, however, common in strumous subjects; and the result has shewn that the alarm in this instance was groundless.

Convinced of the propriety of the step by your reasoning, I made, as a *safety valve*, an opening at the most dependent part of posterior flap; dressed with a few strips of plaster, and, as I have usually done after amputation, applied cold lotion over the wound.

Scarcely any local disturbance followed the operation; indeed I never saw less, if so little, after an amputation of such extent; the general condition was equally favourable with the local.

Upon dressing on the fifth or sixth day, I found about a finger's breadth of the anterior margin of the posterior flap dead, and saw that adhesion had not any where occurred. The dead portion soon separated, the discharge was healthy and in small quantity, granulations sprung from the synovial membrane covering the granular cartilage, and from the cellular membrane or inside of flap, and the two surfaces soon united. The patient rapidly improved, was out of bed in fourteen days after the operation, and but for the raw surface left by the loss of margin of the flap, would have been quite well a week since; had the want of strength not prevented him, he at this time, twenty-five days after the operation, would be, with aid of crutches, taking exercise in the open air.

With all this, I think there are some objections to the operation, which, however, may probably be obviated by attending to certain particulars. I think I erred in applying cold lotion to the wound; I am satisfied that the propriety of this practice, after amputation by the circular method, may reasonably be questioned; for the flap, composed only of skin and cellular substance, and much separated from its connections, has its circulation diminished by the cold, and it may, by the same cause, be entirely arrested. In this operation the flap is larger, and still farther detached, than in amputation by the circular method; the application of cold is therefore still more hazardous, and should never, in my opinion, be employed; it ought to give place to means for retaining or supplying heat, as carded cotton or the warm-water dressing.

There is another cause for the sloughing of the anterior margin of the posterior flap, which occurred in one of your patients, and also in my own: the posterior flap is very large, and the condensed cellular substance and thick cutis composing it are not very liberally supplied with blood; being separated from all its subjacent connections, it can only receive circulation from the vessels that pass through the skin and cellular substance of the posterior and inferior part of the leg, to which it is alone attached; the circulation in vessels so much insulated, and running so far from their origins, as those in the flap, being consequently weak, must needs be liable to be altogether interrupted.

To meet this objection, I think more than usual care should be taken to place the margins of the anterior and posterior flaps in *close, easy, contact*, so that, union by the first intention occurring, blood from the vessels of the anterior will pass into those of the posterior flap, and thus its death be prevented. This is the more requisite, since immediate union between the synovial membrane covering the car-

* Edinburgh Monthly Medical Journal, Vol. III., 1843, p. 93, 274.

tilage, and the condensed cellular membrane lining the flap, is not to be expected. The same reasons which urge us, in our efforts to obtain immediate union, to recur to the cautious employment of sutures and plasters, enforce the avoidance of pressure over the flap; therefore the propriety of not employing compresses or bandages.

So much was I impressed with the risk of losing the flap from the cause above mentioned, and also with the difficulty of easily forming it, that I was much inclined to have operated by two lateral flaps: this mode would certainly facilitate the performance of the operation, but would sacrifice the thick, dense tissue obtained from the heel,—one of the principal advantages of your method.

To insure, as far as possible, the success of this operation, it will be advisable to keep the cut edges of the flaps in *close, gentle*, apposition, by interrupted suture and short strips of plaster; to promote the flow of blood into the flap, by supporting its temperature with carded cotton, warm water dressing, or the like; and, in order to secure free discharge of secretions, to make, as recommended by you, a fair dependent opening in the posterior flap. This latter point will be the more necessary if the close approximation I have suggested be adopted.

Yours most respectfully,
W. Lyon.

Glasgow, May 20th, 1844.
To Professor Syme.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'Alembert.

Caloric: its Mechanical, Chemical, and Vital Agencies in the Phenomena of Nature. By Samuel L. Metcalfe, M.D. of Transylvania University. 2 vols. pp. xix. and 1100. Pickering.

(Second Analytical Notice.)

Wherefore are the men who are in advance of their age so commonly poor and unregarded? wherefore, neglected and unknown, do they so constantly die broken-hearted, before their time? For the simple reason that they are not of the day in which they live, and cannot be understood by their contemporaries; they bring new commodities into the market, for which there is as yet no demand. Demand, however, in the world of matter, is the acknowledged grand creator of supply; although supply of aught that can be turned into use will also, it is said, create demand; but this is only by and by. It is the same in the world of mind: we all belong to our age, and identify ourselves more or less completely with prevalent tastes, and current fashions, and the ordinary literature of the day. The caterers of this literature are of ourselves, of the day; they have but a small sprinkling of individuality, of originality; they are of necessity ordinary men. If they have a larger infusion of the divine fire in their composition than usual, they are not esteemed at first, and the time during which they remain unnoted is in proportion to their deserts: a Milton has to wait a century or so to have his merits admitted; a Shakspeare, as the merit is higher, has to wait hard upon two centuries; and so on, and in reference to every thing else.—James Watt makes an application that is to change the prospects of society over the face of the whole habitable globe, and he has to petition for an extension of the period of his patent, that he may escape bankruptcy and ruin, &c. &c.

This business of critic which we have in hand we feel to be indeed a high and a responsible office; it presents itself to us almost with the same amount of sanctity as did Milton's sublime subject to his god-like mind, when he said that it was "not to be raised from the heat of youth, or the vapours of wine, like that which flows at waste from the vulgar pen, nor to be obtained by the invocation of dame memory and her siren daughters, but by devout prayer to that Eternal Spirit who can enrich with all utterance and knowledge, and who sends out his seraphim with the hallowed fire of his altar to touch and purify the lips of whom he pleases." We cannot change the constitution of society, but we can escape the familiar sin of neglecting genius, of scouting and contemning that which is, in truth, in advance of the day in which we live; and so we return to Dr. Metcalfe's work upon Caloric.

"The whole object of medical science," says our author, "is to regulate the forces of life,—to increase them

when they are deficient, to restrain them when excessive, and to restore their natural balance when deranged. But how can we know the right means of maintaining the functions of life in a healthy state while ignorant of the physical cause on which they all depend..... Why are so many diseases pronounced incurable, but that we know not what causes the heart to beat, the stomach to digest, the brain to think, the nerves to feel, and our active limbs to move?

"The true panacea, or elixir of life, must not be sought in specifics and nostrums, but in a clear and definite knowledge of the mode in which the organizing principle operates in the different functions of life. Were it not that all the phenomena of nature are linked together as parts of one great whole, it would be of far higher importance to know the cause of vital, than that of planetary motion. Nor was it ever intended by Infinite Wisdom and Goodness, that knowledge so essential to the happiness of our race should remain a sealed book. Life is the problem of problems, the solution of which would clear up a thousand other mysteries, and banish innumerable errors from the pages of science. And it may be asserted with confidence, that whoever is without faith in the power of well-directed efforts to resolve it, will never accomplish much towards enlarging the empire of man over the numerous evils by which he is surrounded. A complete knowledge of this subject would do more to elevate the condition of mankind, than the power of transmuting the baser metals into gold, or charcoal into the precious diamond; for all the riches of the earth are not to be compared with health." And again—

"But, unfortunately for the best interests of the world, an impression has long prevailed, that the animating principle is something beyond the powers of the human mind to comprehend. That such a dogma should have been inculcated by the founders of narrow creeds, and individuals interested in keeping the people in ignorance, is not to be wondered at; for in all ages of the world, the empire of imposture has been founded on pretended mysteries, and upheld by ignorance. It is, however, melancholy to reflect, that philosophers should have given countenance to this prejudice. Enslaved by ancient errors, even the wise Socrates is said to have thought it dangerous, unprofitable, and not acceptable to the gods, for men to pry into the hidden mechanism of nature. And in an article on Life, Voltaire, a professed champion of free inquiry, asserts, that 'the cause of animal motion like that which determines all things to a common centre, and the needle to the pole, is the secret of the Deity.' The general adoption of this opinion by the instructors of mankind, has done immense injury to the cause of science, by discouraging the efforts of genius to press forward into the undiscovered regions of truth; while it has fostered ignorance, indolence, and every description of quackery. If there be any primary and efficient cause of vital force, it must be either a portion of the air we breathe, or of the materials by which we are nourished; and if so, there is no good reason why it should be more mysterious than any of the other phenomena of nature."

From the remotest ages of antiquity men seem to have regarded fire or heat either *per se* as the organizing principle, or, under this symbol, to have adored the Deity, and held it as the agent he employed immediately in his creations. The sun and fire are, in fact, felt by the mass of mankind at the present day as the most apt symbols of the Author of the Universe. In the Old Testament, Jehovah is frequently represented under the brightness of the sun: "He clothes himself with light as with a garment," &c. The noblest heroic poet the world has seen, even speaks of the Deity as light:—

> Hail, holy light, offspring of heaven first-born,
> Or of the eternal coeternal beam,
> May I express thee unblamed? Since *God is light*,
> And never but in unapproached light
> Dwelt from eternity, dwelt thou in thee,
> Bright effluence of bright essence increate.

In the temples of ancient Persia, fire was kept burning for ever on the altar*; so was it in the temples of Vesta among the old Romans; and it may be seen at the present hour in Jewish synagogues, and in Roman Catholic Christian temples,—greatly reduced in quantity, shorn of its splendour indeed, and not understood of the vulgar; but the

* As the symbol of Deity, according to Hyde, Religionis Veterum Persarum, Historia, *passim*. 4to. Lond. 1760, but this seems very doubtful.

symbol of the Godhead—the legacy of our forefathers of 4000 or 5000 years ago, to us their children of the passing day. In short, elementary fire, from the dawn of civilization to the commencement of the Christian era, had still been the object of especial reverence among men. All the Dii majores of antiquity, and even many of the Dii minores—Osiris, Jupiter, Apollo, Hercules, &c. are but so many names for the sun, elementary fire, or the active principle in nature. Isis, Juno, Diana, Demeter, &c. again, are but so many titles for the passive principle; as Oromazes, Bacchus, Apollo, &c. are titles of the good principle, and synonymous with light and vivifying heat; whilst Ahrimanes, Pluto, &c. are titles of the evil principle, and of the same import as darkness, cold, destruction, and death.

Elementary fire, then, the ancients appear to have been unanimous in regarding as the active principle in nature, as the physical cause of life. These lines of Virgil have been often quoted:—

Principio cœlum, ac terras, camposque liquentes,
Lucentemque globum lunæ, Titaniaque astra,
Spiritus intus alit, totamque infusa per artus,
Mens agitat molem, et magno se corpore miscet.

which our friend Iambus, at our request, translates for us thus literally:

First heaven and earth, and ocean's liquid plains,
And the moon's bright orb, and the Titanian stars,
Are fed by intrinsic spirit,—deep infused
Through all, mind actuates and mingles with the mass.

Mind and elementary fire, or the common actuating cause, were therefore viewed as identical by the ancient philosophers: "Ὥσπερ δὲ ἡμεῖς ἀπὸ ψυχῆς διοικούμεθα, οὕτω καὶ ὁ κόσμος ψυχὴν ἔχει τὴν συνέχουσαν αὐτόν, &c. as *we* are governed by a soul, so the universe, too, hath a soul, by which it is contained; καὶ γὰρ αἱ ἡμέτεραι ψυχαὶ πῦρ εἰσι—and our souls also are of the fiery element*." And see how another of the philosophic writers of antiquity, Sallust the philosopher, the cotemporary of Proclus, expresses himself: — Αἱ δὲ κατ αρετὴν—but we shall translate: "But the souls of those who have lived virtuously, remote from all that is irrational, severed and purged from the body, are conjoined with the gods themselves, and with them have part in the government of the universe*." This is surely a grand and ennobling view of the destiny of the soul after death.

Descending to more modern times, we find all the distinguished writers of the sixteenth century admitting the existence of an active principle in nature as the cause of motion and organization. Harvey appears to have been very near what our author holds to be the truth, when he indicates the *calidum innatum* as the immediate cause of vitality in the blood, and of the action in the heart; the *archæus* of Paracelsus and Van Helmont was but another name for the πυρ οενρον or intelligent fire of Pythagoras, an element universally diffused and operating with consummate intelligence in the formation of all things. The *pneumatical body* of Bacon is something of the same kind, it is the πνεὺμα, synonymous with the αἰθὴρ of the Greeks, whence aër, air, from or, or ur, light, which particle pronounced on the lips becomes πυρ, and the *p* changed into *f*, the word is Feuer German, fire English. The vital, natural, and animal spirits of Descartes, did not differ from the πνευματα of the Greeks. It was not in fact till after the special inquiries of Willis into the anatomy of the brain and nervous system, that the various functions of life began to be referred to the influence of an imaginary principle, which was held to be prepared by the brain, and conveyed to all parts of the body through the nerves—the *nervous fluid*, the *vital* or *animal spirits*. Following Hoffman, from whom he borrowed largely, this doctrine was espoused by Cullen, and made the basis of his speculations on the nature of disease; and through the strong hold he had upon the Edinburgh school, and the eagerness with which the physiology of the nervous system has been cultivated of late years, this may be said to be the fashionable doctrine in these countries at the present day. Greatly influenced in his physiological views by the neurologists, Haller referred all the phenomena of life to irritability and sensibility, the first being assumed as an inherent property of the muscular fibre, the other of the nervous masses. Mr. Hunter is nowhere very clear upon the principle of life; he sometimes speaks of it as an

* Phurnuti, de Natura Deorum Com. In Opusc. Mythol. a Th. Gale, Anglo. 8vo. Amst. 1688.

* De Disi et Mundo, Opusc. Mythol. à Gale, p. 279.

independent entity under the title of *materia vitæ;* but then he seems to confound it with the hypothetical nervous fluid, and sometimes even with the nervous matter. He says, "something similar to the materials of the brain is diffused through the body, and even contained in the blood; in another place he mentions the stomach as the seat of the materia nitæ; finally, he says, "life is a property we do not understand." Mr. Abernethy, also, in avowing that in the then unsettled state of knowledge he could not advance a step farther than Mr. Hunter had led him, still fancied that the materia vitæ of Hunter might be referred to *electricity;* and such was his influence that at one time it was held little less than impious to doubt that it was so. Other, particularly French, physiologists, have thrown over-board the idea of an animating principle altogether. "Life is the result of all the organic forces," "the sum of the functions that resist death," "the assemblage of the properties and laws that govern the animal economy." But such language is a meaningless jargon; properties, laws, and powers without any source are referred to;—a superstructure is raised without a foundation; effects are indicated without a word of their causes. It is obvious, indeed, from the preceding sketch, as Mr. Whewell has but too justly observed, that we are at the present moment "without any genuine physiological principle, and have yet to learn all that we are to know concerning the ultimate laws of organized bodies."

Every onward step we take in knowledge shows us more clearly than ever that all the operations of nature are so intimately connected, that it becomes finally impossible to draw a strict line of demarcation between physical, mechanical, chemical, and vital actions. Our author has shown caloric an idio-repulsive, a self-moving agent, and then he has demonstrated it as the cause of motion in all things else: the mechanical force of steam is generated by the chemical union of caloric with the particles of water; the ascent of the sap of living vegetables is no less the result of attraction than the rise of water in the pores of a sponge, or in the capillary tubes of glass rods; the first process in the germination of a seed, the first step towards the production of a new being, is of a purely chemical nature: a portion of its substance is converted into sugar and gum with the evolution of carbonic acid and the disengagement of caloric. Still ascending, the digestion of animals is indubitably a chemical operation: we can have it performed almost as perfectly in our laboratories as in the stomachs of living creatures; and that caloric is a principal agent in the process appears plainly from the fact that digestion is rapid exactly in proportion to the mean temperature of the animal in which it is observed: more rapid in birds than in mammalia, it is accomplished with extreme slowness in amphibia and fishes, among which, days, or even weeks, are required to digest a single perhaps somewhat copious meal; but even here the business is accomplished more speedily in proportion as the temperature of the surrounding medium is more elevated, and that of the animal which inhabits it is high. And it is not otherwise in our laboratories: the gastric juice is altogether inert, has no power of dissolving anything, at a temperature between 30° and 40°, or even 50°, in the higher animals; but at 100° Fah. it dissolves and converts food into chyme as perfectly, if somewhat more tardily, (for which very satisfactory reasons can be given) as if it were still contained in the stomach. —Chemists seem, by common tacit consent, to overlook the influences of the heat they employ so universally in their processes—the spirit-lamp, the chauffer, and the furnace, are never reckoned for much in the business; they are matters of course rather than of necessity, and without whose agency almost none of all the decompositions and recompositions that take place, could be effected.—Finally, the all-important function of respiration, the very beginning of life in the more perfect animal, is a purely chemical process: a portion of the oxygen of the lifeless air unites with a portion of the lifeless carbon and hydrogen of the blood, caloric is evolved, the cause of motion is obtained in adequate quantity, and all the phenomena of vitality, varied, multiplied, according to the complexity of the organism in which they are manifested, ensue.

And truly it seems to us that this is obvious and undeniable: the amount and activity of vegetable life throughout the earth is evidently in proportion to

the heating power of the sun: greatest under the equator, it diminishes gradually from the tropics to the arctic and antarctic circles; temperate latitudes, with their varying seasons, are evidently altogether dependent on the presence of the sun for any effectual manifestation of the vegetative force. Who that has looked on the earth in the winding-sheet of winter, and seen her starting instinct with life on the return of spring — whose sole appreciable difference from winter is its higher temperature — and, under the eye of the bright sun, clothing herself with beauty, renewing her species, and, out of alternate death and resuscitation, presenting us with a picture of immortality, who, we ask, will doubt that heat is the vivifying element in the scheme of vegetable creation at least? Nor is the law different in regard to animal life: genera and species of animals are alike abundant within the tropics; they are few and thinly scattered towards the far north and extreme south, where the world of air-breathing insects disappears, and the mammiferous animals and birds that are encountered, live and brave the rigours of the climate, in virtue of the powerful calorific apparatus they bear about with them in the shape of ample lungs, and the thick coat of fat, or fur, or feathers, by which their engendered caloric is economized. Coming down to particulars, do we not farther see that the aggregate vital energy of animals is always in proportion to the activity of the respiratory process; in other words, to the amount of caloric which they obtain by this means from the atmosphere? And, again, do we not see that no seed ever germinates, that no egg is ever hatched, without a due supply of caloric? And, still farther, that the product of this seed, of that egg, unless it derives a certain measure of heat from the high temperature of the surrounding medium, or its parent, or has the power of engendering this within itself, languishes, droops, and dies, "are we not forced to conclude," says our author, p. 532 and 541, "that the cause of vital manifestation is a constituent of the atmosphere, a portion of nature, and not a hyperphysical essence, as supposed by modern theorists, who have confounded the physical cause of animal motion with sensation, volition, and thought, which are operations of the nervous system, and not material entities?"

But the dependence of vital manifestation on the atmosphere, and even on a single principle of that atmosphere, viz. oxygen, being admitted, the whole question of the efficient cause of life is brought within a very narrow compass; we have only to ascertain whether oxygen produces its wonderful effects, in the world of organization, by its immediate agency, or by the evolution of an imponderable fluid in the course of its combination with some principle of the body, to have ascertained the truth, to have penetrated the mystery of life. Our readers will of course divine how Dr. Metcalfe decides this question: the oxygen of the atmosphere is instrumental in maintaining life by combining with the carbon and hydrogen of the blood, and parting with its latent caloric in the act. "But," says our author in continuation, "if the number, diversity, and specific character of plants throughout the earth, be determined by the amount of caloric derived from the sun, it follows, *a fortiori*, that the vital force of animals, and the development of their organisms, must be regulated by the quantity of the same agent which has been shown to be the active principle in light, electricity, oxygen, and all the other forms of matter." Higher in the scale of creation than vegetables, animals, as they are more perfect, are less and less dependent on the free heat of the atmosphere; and having attained to a certain grade of completeness, their power of extracting its combined or latent heat is such that they virtually cease to depend at all upon its sensible warmth; they disengage *vital fire* from an atmosphere that renders quicksilver solid.

This brings us naturally, along with our author, to consider the function of respiration, avowedly the first and most immediately connected with life of all the processes that take place in the animal organism; so immediately and so obviously, indeed, that Moses says: "God breathed the breath of life into the nostrils of man, and he became a living soul."

Nothing can give a more woful picture of the state of physiological science than a review of the opinions that have been current up to the present hour,

first, upon the end and import of respiration, and then in regard to the precise source of animal heat. The ancients, and likewise the moderns, up to a very recent date, believed that the end of respiration was to cool the blood; Black and his contemporaries, Crawford, Lavoisier, &c., taught, on the contrary, that its purpose is to evolve heat in the same way as heat is evolved by the combination of oxygen with ordinary combustible materials; but by and by Sir Benjamin Brodie was led to infer that heat was, in some unexplained way, generated by the nervous influence. Philip maintained that it was the result of secretion; Tiedemann that it depended immediately on the process of nutrition; Mr. Mayo ascribes animal heat in one place to nervous influence; in another he says its source is unknown; Dulong and Despretz reverted to the old doctrine of Black, only in part however; for whilst they allow respiration as the principal source of animal heat, they believe that another portion is extricated from the blood by nervous influence. Müller, coming after them, reverses the order, and maintains that the reciprocal action between the organs and the nerves is a main source of animal heat; and Dr. Southwood Smith, writing but a few years ago, and representing general opinion rather than his own on the subject, says that "whether the blood acquires something from the atmosphere which is essential to life, or parts with something incompatible with life, is wholly unknown!"

Even among the physiologists who acknowledge respiration as the source of animal heat, it is undecided whether the combination between the oxygen of the air and the carbon and hydrogen of the blood takes place in the cells of the lungs, as taught by Black and his followers, or in the course of the general circulation, according to the prevailing or current opinion. In such a state, we dare not say of *science*, but of *ignorance*, we can hardly wonder, with our author (p. 542), that "no systematic attempt has yet been made to connect the theory of animal temperature with the laws of life." The purpose of Dr. Metcalfe, as our readers will have presumed, is to do this, and the manner in which he sets about it is indeed masterly. He first inquires into the precise point at which the principal amount of combination between the oxygen of the inspired air and the carbon and hydrogen of the blood, with the consequent evolution of caloric, takes place; and this he shews to be the lungs, upon the strength of the simple fact, first demonstrated by Dr. John Davy, that the blood in the left ventricle of the heart is from 1° to 3°; probably, in health, it is always about 3° F., higher than that in the venæ cavæ and right ventricle. The lungs are, in fact, the hottest organs of the body, which Dr. Black had inferred they should be, but which Cullen treated ironically, actually announcing the truth as an absurdity: "If animal heat were the effect of respiration," said he, "the lungs would have a higher temperature than other parts of the body." And so they have: the blood in the right side of the heart of a spaniel bitch, Dr. Davy found 104° F.; the pleura and the blood of the left ventricle indicated 107° F. This difference between the temperature of the arterial and venous blood is probably the most important fact in animal physics, and it happily now stands in no need of farther confirmation. Dr. Metcalfe's application of the fact is wholly his own. He believes that the end and influence of the caloric obtained by the blood, in the course of the lesser circulation, is to cause it to unite with and nourish the solids of the body, and so enable them to manifest their special properties: hence vital manifestation of every kind; hence, but with the very important addition of the cause, "life, as the sum of the forces possessed by living beings" of the French school. In the course of the union thus indicated, the caloric obtained from the atmosphere is transferred to the solids from the blood, which loses its bright vermilion colour, and its power of stimulating the organs, until it has regained the crimson hue along with a new quantity of caloric in the lungs; and it certainly is a remarkable fact, which most of us, as practical men, must have noticed, that the blood let from a vein in cold weather is always much darker in colour than it is when the temperature is high. Davy observed particularly that venous blood in the tropics was nearly of as bright a crimson as arterial blood, and Crawford, long before, had

found that the venous blood of a dog, placed in a bath at 114° F., could scarcely be distinguished from that of a neighbouring artery. Here is a new explanation of the difference of colour between arterial and venous blood, one of the many vexed questions in physiology at this time.

Upon this striking and indubitably important basis, Dr. Metcalfe now proceeds to shew that the mean temperature of animals is, *cæteris paribus*, directly in proportion to the amount of their respiration, and that the activity of their several functions is in the direct ratio of their temperature. Birds will consume from 1-20th to 1-10th of their weight of solid food per diem, the fox-hound about 1-40th, the race-horse from 1-60th to 1-70th, man about 1-100th of his whole weight of solid nutriment in the course of the twenty-four hours; and the consumption of oxygen, standard temperature, and amount of physical energy displayed, are in the same order; for the food of the animal is neither more nor less than the coke that feeds the furnace of the steam engine, just as the steam raised and power developed are precise indications of the quantity of fuel consumed. Descending in the scale, we observe reptiles, with their vesicular lungs of comparatively trifling superficies, their moderate consumption of oxygen, their low temperature, their tardy digestion and capacity to endure long fasts; and then we come to fishes, molluscs, &c., where gills supply the place of lungs, and in which the amount of vital energy displayed is progressively less and less.

Our readers will have already perceived upon what an extensive series of data Dr. Metcalfe generalizes—how ample the store of learning which he brings to bear upon this, as he does upon every other point of his subject; for, indeed, we have followed him very closely in our analysis, and at every step felt more puzzled to select illustration from the abundance with which his pages teem, than seen ourselves forced to look about for further matter of our own. For the acute, lively, and still candid style in which he criticises his predecessors in the path of physiological inquiry, we must refer to the work itself, which is no less remarkable for its candour than for its learning, its taste, and its ingenuity. We had hoped to have found ourselves with room to touch upon one or two of the pathological topics handled in this interesting work, but must defer this to another opportunity. We conclude this notice by extracting a couple of paragraphs which convey, in brief, a fair specimen of our author's manner as well as matter.

"Whenever the temperature of warm-blooded animals is reduced 20° or 30° below the natural standard, by surrounding them with ice-cold water, the blood loses its florid hue, the surface becomes purple or livid, the action of the heart languid, the secretions are arrested, the brain refuses to perform its office, and the voluntary muscles are seized with spasms, or become paralytic, without the loss of oxygen, electricity, or any other agent, except caloric; and if kept long in this situation, the heart ceases to beat, the crimson tide of life to run, and all the powers of motion are at an end. The graceful form of the rounded limbs is exchanged for sharp or prominent angles, the cheeks become pale and shrunken, the lustre of the speaking eye is gone, the brightness of fancy is quenched, and the "thoughts that wander through eternity" are lost in the night of death."

"If then it be true, that the quantity of life throughout the earth be in proportion to the heating power of the sun, what, I repeat, is the use of animal heat? Is it not the essential character of a *vera causa*, that its power should be in proportion to the effects it produces, and that the latter should cease in its absence? Is it philosophical to assume the existence of any more causes than are sufficient to explain the phenomena? Or if an immaterial and unknown principle of life be still admitted, will it explain anything in the absence of caloric? It is impossible to blink these questions, or to resist the conclusion they naturally force upon the common sense of every unbiassed mind, that caloric is not only the cause of all excitement, but directly or indirectly, of *excitability*—that it is not only the most potent and universal stimulant in nature, but the cause of *stimulability*."

MEDICAL GAZETTE.

Friday, May 31, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

HOW IS THE STUDENT OF MEDICINE TO ACQUIRE THE INDISPENSABLE KNOWLEDGE OF THE SCIENCE AND PRACTICE OF HIS PROFESSION?

SOME have held that ability to pass the prescribed examination is the only test of fitness requisite. We think them gravely in error. We have already shown that the amount of information necessary to pass the prescribed examination can be acquired by any young man of somewhat apt natural parts, in from three to six months. This is notorious; it is done every day. That the medical student has long been remiss in his attendance upon the prescribed courses of lectures, has always been well known to the Court of Examiners of the Apothecaries' Company. In their lately published Address they refer to the Preface of their Regulations issued in September 1830, in which they say:—

"The Court of Examiners have too much reason to know and lament, that notwithstanding all their precautions, the attendance upon Lectures, and more especially that upon Hospital Practice, is often grossly eluded or neglected; and they deem it their duty to express a hope that the teachers of the various branches of medical science, with whom the correction of this abuse must principally rest, will turn their attention to the removal of an evil of such magnitude. It would be competent for the teachers to insist upon periodical signatures from their respective classes, proving that the pupils are actually in attendance; and it would be equally in their power entirely to withhold certificates from those who have neglected their attendance, or to qualify the testimonial in such a manner, that the Court may apply to those who have been negligent that degree of rigid scrutiny which the justice of the case might appear to demand."

Aware of the fact to which they allude, the Apothecaries' Company would have done well had *they* taken effectual steps towards securing the presence, at the prescribed lectures, of the young men who were by and by to become candidates for their license: it is quite certain that the lecturers cannot do so. Lectures, as means of instruction, being approved, attendance on them ought plainly to be assured; not being held necessary or preferable to other methods of acquiring knowledge, attendance on them would of course be dispensed with. It seems certain, however, that any competent knowledge of medical science can only be acquired by long years of devotion to its study; even as new garments cleave not to the wearer but by force of use, so do the import and bearing of the facts and phenomena that pass in review before the eyes of the medical student only find their interpretation and application after his mind has been long familiarized with them, after it has assimilated them, as it were, and made them part and parcel of itself. It is that leisure may be had not merely to collect and store up the information necessary, but to digest it properly, that three, four, or even five years are acknowledged to be not too many for the acquisition of the elements of medical lore. The father of physic begins one of his immortal works by lamenting the brevity of life in contrast with the extent of science—Ὁ Βίος βραχὺς ἡ δε τέχνη μάκρη—Life is short, art is long! He evidently thought differently on the subject of medicine from the young men of the present day, who very generally act upon the presumption that the whole body of the science medical may be acquired in three or four months.

Truly it appears to us that there is no more pleasant or effectual way of acquiring the rudiments of any science than by attendance on lectures. Information is, in this way, imparted

gradually, just as it ought to be; it is also imparted pleasantly—that is, if the lecturer be fit for his business: a very important consideration. Lectures, in the main, and with the public at large, are decidedly popular. We see the great theatre of the London Institution constantly crowded with something like 1000 persons, and that of the Royal Institution with about half the number, all hanging with open ears and understandings on the words and acts of the lecturer.

There is nothing in the system of lecturing, therefore, that is objectionable in itself; on the contrary, there is every thing to recommend it. But it is unquestionable that there has long been a growing indisposition on the part of medical students to attend lectures; they have long given their presence grudgingly; and in the generality of our London schools, with some few exceptions, not more frequently than would just secure them the signature of the professor to their schedule. They have set no store by the information they might have obtained in the class-room.

But this is not all: the student has not been alone remiss; there has also been an increasing indisposition on the part of lecturers to discharge their duties in the chair with energy and good will: the disgust both of pupil and teacher may fairly be said to be mutual. Wherefore is this?

The reasons are various. In the first place, according to the prevalent custom, the young man destined for the medical profession has hitherto been apprenticed for five years to a general practitioner, with a view, as his parents and guardians imagine, to his becoming master of the elements of the art and mystery by the exercise of which he is afterwards to take his place in society, and gain his bread. This was a fatal error, and one of the grand sins which the Apothecaries' Act of 1815 perpetuated—against the will and inclination of the Worshipful Company, be it said to their credit, but in deference to the opinion of a reverend prelate in the House of Lords, who, we must presume, imagined that the science and profession of medicine and surgery were to be learned, like the handicraft of cabinet-making or shoemaking, under the eye of a competent master. The young man destined to recruit the ranks of the general practitioner, however, has, up to this time, had to serve a five years' apprenticeship; and here began the mischief in reference to him. Taken away from school at the very time when his presence there was of highest importance; indifferently furnished, as yet, with the key that would unlock any treasury of knowledge; removed from wholesome discipline and the necessity of being at least in the way of learning something; the taste for true knowledge scarcely yet awakened in him, he is placed, with a large amount of liberty, and with little or nothing to do, in the surgery of a country apothecary, to get through the lazy hours as he best may, and to contract habits of idleness that influence his fortunes to the end of his life.

The term of five years, however, to be spent in the menial drudgery of compounding medicines, was too monstrously absurd to be generally enforced; there was commonly a compromise between the master and the apprentice, by which, at the end of three, often not till the lapse of four, of the five years, the latter escaped from his Castle of Indolence, literally to *commence the study of his profession.* Whatever may be said to the contrary, it is undeniable that the three or four years of his precious life which he had passed in the surgery, are irrevocably gone, lost to him for ever; and that in-

stead of having learned aught that can ever be of essential use to him in after life, he has, almost of necessity, contracted habits of inattention and of idleness, that unfit him to pursue effectually the course of study that is required of him. More than this, he has, in fact, no longer the time that is indispensable for the purpose: within eighteen months or two years his apprenticeship will have expired, he will be of age, and his relatives and friends expect that he will then be ready to pass his examination at Apothecaries' Hall, and be in a condition to take his place in the world, and do something for himself. In the brief interval of two years, or two years and a half, therefore, the student has to crowd attendance upon all the courses required. Such incessant application, however, particularly with his previous habits, he soon finds irksome, distressing, distracting—it may be, impossible; anon he finds out that he can have his schedules filled up by attending occasionally, or even without attending at all; finally, he makes the discovery of discoveries,—that of the modern invention of grinding, by which, in virtue of four or six months'—according to the degree of his previous inattention—of uninterrupted application at the end of his time, he can provide himself with responses to all the questions that can be asked at the Hall or College: this suffices him, and forthwith he begins to lead a jolly or an idle life until the day of trial comes round.

The student then and thus is paralyzed. But his apathy is not confined to himself; it is communicated to his teacher. The disgust both of medical student and teacher, in more than one of our medical schools, may, as has been stated, fairly be said to be mutual. The teacher, no less than the pupil, discovers that he has a hopeless task in hand; so that he soon comes to content himself with his fee, in return for which he gives his signature, without insisting on fulfilment of every particular in the contract between them. No mere mortal man, in fact, can go on lecturing, with energy and interest in his subject, to indifference, and empty benches, for five or six months successively. And then there is this to be said, that oral instruction is now much less indispensable than it was in former ages. Since we have printed books, we are, in a great measure, independent, nay we are altogether independent, of oral instruction. When Erasmus lectured at Rotterdam (says Mr. Carlyle), if he ever lectured there, or Petrarch at Avignon, as it is said he did, whoever would get from Erasmus or Petrarch what Erasmas or Petrarch had to give, must go to Rotterdam or to Avignon for it. Matters are altogether different in the present day: were Erasmus or Petrarch teaching now at Rotterdam or Avignon, we should have his lecture in London and Paris, in Berlin and New York, in Bombay and on the slopes of the snowy mountains, *in due course of post*, imprinted, indelibly fixed, fitted for reiterated perusal, and even as well calculated to impress sense through the eye, as it would have been had it entered the soul through the porches of the ear. There is no longer any necessity to go to Rotterdam or to Avignon, to hear Erasmus or Petrarch; we carry either or both of them about with us in our pocket wherever we go; we consult them as familiar friends, again and again, and they are never weary with our questions. The school of every gifted man has become the world; his voice reaches to, his soul touches, the men at the antipodes.

Seriously, it seems to us that the system of teaching by lectures ought to undergo revision. Courses might be made much shorter than they are with advantage, and the business of the teacher restricted to giving the *general principles* of his subject, referring to his own, or to another good manual, for all par-

ticulars, demonstrations of which would follow in the laboratory, the wards of the hospital, or the dissecting-room, as the case might require. In this way, it strikes us, the study of the medical sciences could be made as attractive and useful to the student, and pleasant to the professor, as the present system is irksome to both, and, through apathy, unprofitable to him who is peculiarly interested in having it otherwise.

Students complain that they are *over-lectured* at present. And so, indeed, they are, if the brief interval of time into which they crowd attendance, (*qy.* non-attendance,) on all the Courses required of them be considered. The points that meet the body, which, seated in a comfortable apartment, at a table nicely covered with green cloth, set out with wax lights and all the means and appliances for elegant deliberation, is engaged in fixing the curriculum of the medical student, are few and far between in comparison of those which the student himself has to encounter. Let us take the second winter session of the student's life by way of example. In the course of study ordered by the Court of Examiners of Apothecaries' Company for that session, we find—1st, Anatomy and Physiology; 2d, Anatomical Demonstrations; 3d, Dissections; 4th, Principles and Practice of Medicine. This looks feasible on paper, and as if there were no hardship in it; but when we come to consider that, in our best schools, the anatomy and physiology are divided, and properly divided, if the student is to depend on his lectures as means of instruction; and then, that if Practice of Medicine suffices the Apothecaries, the College of Surgeons require Practice of Surgery, upon which attendance must therefore be given; farther, that during his second winter session the student is, or ought to be, paying particular attention to the medical and surgical practice of the hospital; still farther, that during this session the student very commonly takes out his midwifery ticket; still farther, as it is universally allowed that neither chemistry nor materia medica can be mastered in one semestral attendance, so a second course upon these branches is always signed for by the several teachers during this second winter session; finally, that, Apothecaries' Company *recommend* a course of morbid anatomy, and attendance on the clinical lectures (the most important lectures of all!), which are delivered at the hospital to which the pupil has entered, we see that the student has, in verity, his hands full of work. Enumerating all these Courses in succession, let us see how the reckoning stands in reference to the devoted student in the course of his second winter session:—1st, Descriptive Anatomy; 2d, Physiology and General Anatomy; 3d, Demonstrations; 4th, Dissection by himself; 5th, Chemistry, second course; 6th, Materia Medica, second course; 7th, Principles and Practice of Medicine; 8th, Principles and Practice of Surgery; 9th, Principles and Practice of Midwifery; 10th, Morbid Anatomy; 11th, Hospital Medical Practice; 12th, Hospital Surgical Practice; 13th, Clinical Medical Lectures, occasionally; 14th, Clinical Surgical Lectures, occasionally! Let the luckless wight betake himself to his bed, and die upon this—human nature cannot stand it! Nor is the above reckoning complete, long as it is; he who is working for a degree from the London University will find that he has probably a couple of courses more to follow. He will find himself with General Pathology, or General Therapeutics, or some such other hard dry nut to crack, in addition. And if we are here reminded that the lectures are not given, the hospital visits are not made, every day, this is but another reason with us for find-

ing fault with the system. They ought to be so; it should be imperative on every lecturer to deliver his course on at least five, and it were better that it was six, consecutive days in every week till it was completed. Monday, Wednesday and Friday, or Tuesday, Thursday and Saturday, or Monday, Wednesday, Thursday and Saturday, or any other conjunction or jumble of days—each and all are alike objectionable, all alike destructive of those habits of consecutive attention and regularity that are absolutely indispensable to progress in any undertaking.

And now feeling ourselves fast in this slough of despond into which we have been tumbled by the separate and irrespective enactments of our Colleges of Physicians, Colleges of Surgeons, Companies of Apothecaries, and London Universities, we beg Sir James Graham very earnestly to look down upon us in our sad plight, and entreat him farther, that, taking into his counsels wise and liberally educated men, he come to our rescue forthwith, and by uniformity of educational plan, and reasonable time dedicated to carrying it out, he do something to secure to the community a supply of medical men, not only competent to treat disease in individual instances, but capable of advising with him upon the causes of disease in general, and of suggesting means adequate to their abatement or removal, which, after all, and particularly to the statesman, is the consideration that ought to be paramount.

ROYAL COLLEGE OF SURGEONS.

We have been requested to give insertion to the following

Statement relating to the New Charter of the Royal College of Surgeons of England.

The Council of the Royal College of Surgeons of England feel that the time is arrived when it is proper for them to offer some observations, in explanation of the principal changes which the Charter, lately granted by Her Majesty, has occasioned in the constitution of the College, and on the ultimate effect which these changes may be expected to produce in the condition of the Surgical profession. They avail themselves of the opportunity thus afforded to state the principles on which they have hitherto acted, and those on which they propose to act hereafter in the exercise of the new duties which this Charter has imposed upon them.

The Bye-laws which may hereafter be made for the government of the College will not be valid until approved of by the Crown.

The Members of the Council will be elected, not for life, but for a limited term of years.

When vacancies occur in the Council, they will be supplied, not by the Council, but by a new body of Fellows, who will elect the new Members from among themselves.

Fellows of the College, who are not Members of the Council, will be equally eligible to the Court of Examiners with those who are; and future Examiners will hold their office only during the pleasure of the Council.

One object of Her Majesty's Advisers, in establishing the Class of Fellows, was to create a sufficient Constituency for the election of the Council. The same end might have been attained by simpler means, such as giving the franchise to members of a certain standing in the College; but another and expressly avowed purpose was to promote a spirit of emulation among Surgeons, to afford additional inducements to exertion in the cultivation of science, and thus to increase the utility and elevate the character of the Surgical profession. After the expiration of one year from the date of the Charter, no one will be admitted into the rank of Fellows, until he has undergone a strict and lengthened examination, not only in practical surgery, but also in the collateral sciences. They who aspire to become Fellows, without having been previously Members of the College, will be required to have gone through an extended course of professional study in Hospitals and Schools, and to be at least twenty-five years of age. But the Fellowship will not be limited to Candidates of this description; and they who, not having had the same advantage of education, have been admitted as Members at twenty-one years of age, may, after having been engaged in Practice for a certain number of years, represent to the Council that they have continued to study their profession as a science, and claim on these grounds to be examined for the Fellowship. Thus any individual, however

limited his means of improvement may have been in early life, may raise himself by his own industry and talents to the same rank in the College with those who were in the first instance more fortunately situated. No one who desires to attain the Fellowship can complain that it is not within his reach, or that he is prevented from becoming an Elector, or a Member of the Council, or of the Court of Examiners.

Candidates for the Fellowship at twenty-five years of age will have had the opportunity of obtaining a liberal general education, previously to entering on the studies peculiar to their profession; and it is reasonable to expect that the example of such well-educated persons will influence those whose preliminary education has been imperfect, to supply the deficiency by devoting to the acquirement of various knowledge and the general cultivation of the mind, a portion of the leisure which falls to the lot of every young practitioner.

The course to be pursued in the future admission of Fellows is sufficiently obvious; but the new Charter imposed upon the Council another task of much greater difficulty, that of selecting, from among the many thousand Members of the College, a limited number of individuals to be nominated as Fellows in the first instance, so as to form an immediate Constituency for the future election of Members of the Council.

The following provisions of the Charter, on this subject, give to the Council the absolute power of nomination, without conferring on any description of Members the right to be so nominated.

"The Council of the said College, with all convenient speed after the date of these Our Letters Patent, and before the expiration of three calendar months from the date hereof, "and in such manner as the said Council shall deem best, shall elect to be Fellows of the said College any such number of persons, being Members of the said College, and not being in the whole less than 250 nor more than 300, as the said Council shall think proper."

"It shall also be lawful for the Council of the said College, at any time or times, after the expiration of the said three calendar months, and before the expiration of one year from the date thereof, by diploma or diplomas under the seal of the said College, and in such form as the said Council shall think fit, and without any fee, to appoint any other person or persons, being a Member or Members of the said College, to be a Fellow or Fellows of the said Royal College of Surgeons of England."

When these passages of the Charter are considered in reference to each other, and in combination with the circumstance that the nominations of Fellows by the Council is only a temporary expedient, designed to provide, in the first instance, that Constituency which will be supplied hereafter by Fellows admitted on examination, it will be obvious that the framers of the Charter did not intend that the Fellows to be thus nominated should greatly exceed the number of three hundred.

The Council entered on the duty assigned to them by these provisions of the Charter with a full sense of its invidious nature. They were aware that of those not included in the list of Fellows, a considerable number would feel and express dissatisfaction. But they have done what was required of them to the best of their ability, and have made the selection altogether on public grounds, without favour or prejudice, and uninfluenced by private motives. The following statement will sufficiently explain the principles on which they have acted.

The great majority of the Members of this College are less engaged in the practice of Surgery than in that of Medicine, Midwifery, and Pharmacy, and many of them have arrived at well-deserved eminence in these latter departments of the Medical profession. But the Council, keeping in view the objects for which the College was especially established, have felt it their duty, in the nomination of Fellows, to regard chiefly the qualifications of Members as practitioners in Surgery, or as improvers of those sciences which tend to its advancement.

1. In accordance with this principle, they placed in the list of Fellows the Surgeons of all the Hospitals in England and Wales which are recognised by them as Schools of Surgery; and they did so under the conviction that the Surgeons of large hospitals have the best opportunity of experience in Surgery, and that they are the persons principally consulted, in private practice, and referred to by other practitioners, in surgical cases.

2. But they were aware that in several parts of the kingdom there are Members of the College having considerable reputation as Surgeons, and called into consultation in surgical cases by the practitioners in their neighbourhood, although they have no connexion with Hospitals; and the Council thought it right to place the most eminent of such persons on the list of Fellows. In executing this part of their duties great circumspection was required, lest improper names should be inserted and proper ones omitted. In this respect the list is incomplete, there being individuals of this class whose claims are still under consideration.

3. Not being well acquainted with the qualifications of Military and Naval Surgeons, and being at the same time desirous

of doing justice to them, the Council applied for assistance to the heads of their respective departments; and many of the names included in the schedule of Fellows are the result of this application.

4. There are in London several practitioners in Surgery, who, though not connected with Hospitals, were considered eligible to the Council under the former Charter and according to former usages, and the Council therefore thought that they ought to be admitted to the Fellowship. Many of these gentlemen are well known and much esteemed by the profession; and the question was, not whether they should be elevated to a new position, but whether they should be displaced from one which they had previously occupied.

5. Some individuals have been placed on the list of Fellows from having distinguished themselves in cultivating the kindred sciences of Anatomy, Physiology, and Natural History. The Council cannot but regard such persons as ornaments of the College, and it will be gratifying to them to find others of the same class who may be added to the list.

6. Other names have been inserted for special reasons, being principally those of Teachers who had been recognised by former acts of the Council, or of persons holding important public offices. Among the latter are four Senators of the University of London.

The Council are empowered to nominate an additional number of Fellows before the expiration of the first year from the date of the Charter. This will enable them to supply the deficiencies of the former list, in anticipation of which it is evident that this clause was introduced. In the future nomination of Fellows, the Council see no reason why they should depart from the general principles on which they have hitherto acted; though they will make it their object to omit the name of no individual who is held in esteem by the other Members of the College for his surgical experience and scientific attainments. For those who are not yet so distinguished, there is an honourable method of obtaining the Fellowship by examination.

In conclusion, the Council take the liberty of observing, that no alteration in the Charter, nor any legislative enactment, can materially change the condition of those who have been for some time established in practice. In the medical profession each individual makes his own place in society; intellect, knowledge, and integrity, being equally appreciated and respected in every grade and station. If the changes introduced by the present Charter are to have the effect of elevating the character of the surgical profession generally, it will be in the next rather than in the present generation; and if the elder class of practitioners are interested in these changes, it is no less on their own account, than on that of their sons and successors.

By order of the Council,
EDMUND BELFOUR, Sec.

Lincoln's Inn Fields,
May 25, 1844.

REPORTS OF CASES
OCCURRING AT
THE WESTMINSTER HOSPITAL:
WITH REMARKS,
BY B. PHILLIPS, Esq. F.R.S.

Lacerated wound of Leg; Erysipelatous Inflammation; Gangrene; Death.

A. B. æt. 43, a brewer's drayman, was admitted into Northumberland Ward, at 3 A. M. of the 17th of March.

He had fallen from his dray while riding; the wheel had passed over the right leg, and caused a lacerated wound of between five and six inches in length, exposing the internal surface of the tibia: there was considerable hæmorrhage from the wound at the time of his admission, but it soon ceased. The edges of the wound were brought together by sutures and adhesive straps, and a roller was applied from the foot to the knee. When seen by Mr. Phillips, at 1 o'clock P.M., he had not slept, but did not complain much of the injured limb: ordered an aperient draught, and the sutures to be removed if there was any tension. In the evening he complained of the leg being very painful, and of its throbbing very much; and upon removing the bandage and plasters the outer side of the limb was found in a state of erysipelatous inflammation: the sutures were removed, and the limb was enveloped in warm fomentations. Early in the morning of the 18th there was a sudden declension of the vital powers, and at 10 A.M. the whole of the integuments of the leg were in a gangrenous state, which was rapidly spreading up the thigh: so rapid was its progress, that in a few hours it had extended to the abdomen. Brandy and ammonia were given to him, and various local applications were used to endeavour to check its progress, but without effect, and he died about eight in the evening.

Remarks.—The great interest in this case is to be found in the circumstance that, in a man of middle age, a wound of no very serious magnitude ended in gangrene within 24 hours of the receipt of the injury. Hospital surgeons are familiar with the fact that wounds are apt to become erysipelatous or

gangrenous, and that depletion is very ill borne by those persons who are employed by brewers, and especially those who are in the capacity of draymen : the work they do is exceedingly laborious, and to help them to meet the great calls upon their strength, their employers are accustomed to allow them large quantities of beer. In the present case it was ascertained that the man was accustomed to drink from 12 to 16 pints daily. So much stimulus brings about a condition verging upon constitutional irritation, and a slight cause will sometimes turn the scale ; rarely, however, do the powers of life flag so suddenly as in this case.—About 3 o'clock one morning, the injury, and that not a very severe one, is sustained : no depletory means were employed, and at 9 o'clock the next day an almost pulseless state of collapse comes on, from which no stimulus, either by extensive counter-irritation, or other means, roused him at all, and he died in the evening of that day. There was no disease of the vascular system even in the thigh of the affected side. The lesson which may be learnt from this case is, that in such patients it is unsafe to discontinue the use of the accustomed stimulus even for 24 hours. It is possible that three or four pints of beer, taken on the day of the injury, might have altered the result.

Mammary Abscess in the fifth month of Pregnancy ; Treatment ; Cure.

Eliza M——, æt. 20, unmarried, a domestic servant, admitted March 19th, states that about a fortnight previous to admission she first began to feel pain in the right breast, and on examining it she found a hard swelling, about the size of a walnut, which rapidly increased until the breast became more than double its natural size ; and on the Saturday previous to her admission it broke in several places, and a thick yellowish matter was discharged, but with little diminution in the size of the breast. On her admission, the breast had all the appearances of a large scrofulous abscess, with numerous ulcerations on its surface, from which a great quantity of pus escaped : on pressure by the finger in some parts a sensation similar to that of a piece of wet sponge is communicated, in others the gland is hard and lobulated. Her general health is a good deal affected ; she has sleepless nights, no appetite, pulse small and weak, countenance pale and anxious. Upon questioning her, she admitted that she is between five and six months advanced in pregnancy, and that her health had previously been good : she has not suffered at all from the usual concomitants of that state, and she never received a blow upon, or in any way injured the breast, that she is aware of.

Ordered to remain in bed, and apply a poultice over the entire surface of the breast, to take ʒj. Mist. Ferri Comp. ter die, and to have full diet and a pint of porter daily.

21st.—Complains of great pain at the lower part of the breast, which keeps her awake.

To have an anodyne at bed-time.

Continued in much the same state till the 25th, when Mr. Phillips made an incision into the most depending part of the breast, which gave exit to a large quantity of healthy-looking pus, and afforded her great relief.

30th.—The breast is now nearly a third less, and discharges freely. Health considerably improved. The discharge gradually lessened in quantity, and the breast in size, and on the 14th April Mr. Phillips directed that pressure should be applied to it by means of soap strapping and a bandage, by which means the breast is now reduced nearly to its natural size ; but there is considerable hardness remaining : the patient's health is in a great measure restored, and in a short time she will leave the hospital.

Remarks.—This case is curious in the circumstance that an abscess bearing all the ordinary marks of breast-abscess after delivery, was developed in the fifth month of pregnancy, in the absence of any other apparent cause of irritation to the organ than the state of the uterus. The appearance of the woman was that of one who had recently gone through the suffering of parturition ; the affected breast had large tortuous veins ramifying over its surface ; the areola around the nipple was very dark, and it was stated by the house-surgeon that a secretion could be expressed from the nipple of the sound side. The same means of treatment which would have been employed in abscess after childbirth were employed here, and with complete success. The breast was very large after the escape of all the pus contained in its tissue, but it yielded to pressure made over it by means of soap strapping and bandaging, and the organ is now reduced to as nearly as may be its natural size. In cases of breast-abscess after delivery, which are frequently seen at the St. Mary-le-bone Infirmary, I have had abundant opportunities of satisfying myself that, after free evacuation of the different purulent collections, the only way to prevent the extension of the disease through the lax tissue of the part is the prudent employment of pressure. It is best made by soap strapping, carried a good way around the chest, so as to get a firm hold, and then equally supported by a roller. It is of course necessary to leave uncovered by the strapping any sinus that may be present.

Abscess of the Septum Narium simulating Polypus; Evacuation of the matter; Cure.

John Brown, æt. 26, presented himself among the out-patients, on March 20th. He states that, about two months back, he first found a difficulty in breathing through the nose, and perceived a small swelling in the left nostril; it gradually increased in size until it became so inconvenient that he was forced to apply for relief. There is now a tumor nearly filling the cavity of the left nostril; there is also a fulness over the septum on the opposite side; it has all the appearances of an ordinary vascular polypus, excepting its broader base.

Ordered to apply a lotion containing Sulph. Zinci to it frequently.

24th.—It appears slightly shrunk.
30th.—Much the same.

To have two leeches applied to the part, and to continue the lotion.

April 6th.—Mr. Phillips being doubtful of the nature of the tumor, introduced a grooved needle into it, and ascertained that its contents were pus: he then put a lancet into it, and between three and four drachms of pus escaped.

13th.—The opening having closed, it was again opened, and a similar quantity of pus let out. He came again on the 18th, when there was little appearance of the swelling remaining.

May 7th.—He is now quite well.

Remarks.—This case illustrates a form of disease by no means of frequent occurrence—abscess of the septum of the nose. The patient was a healthy-looking young man; he had had a blow on the nose some time before, which may have been the source of irritation. The tumor had all the appearance of an ordinary vascular polypus, save that its base was larger than is usual in such cases. The fact of a thickening being present on the other side of the septum induced me to suspect that the tumor was possibly abscess, and to assure myself of this, before attempting to do more, I passed the grooved needle into it.

I have twice before observed abscess of the septum. In one case the tumor was grasped by the forceps, and torn off, but it left the surface of the septum exposed; which afterwards became carious, and ultimately was perforated, and the opening did not close while I had an opportunity of observing the case.

THE HOTEL-DIEU 50 YEARS AGO.

In 1786, diseases and infirmities of every nature and description were treated in the Hôtel-Dieu. The patient who arrived was placed in the bed and sheets of the patient who had just died, affected with the small-pox, it might be, or some other disease, complicated with itch. Two insane patients were always laid in one bed. (Think of two madmen under the same coverlid!) In the ward exclusively reserved for small-pox patients, there were often six adults, or eight children, laid in a bed less than 5 feet in width. On the female side there was no separate ward for small-pox; the patient labouring under a trifling fever had perchance for her bed-fellow a woman in the height of this dreadful malady! The patients were laid head and heels, the feet of one being in contact with the shoulders of another; and as four, and even six, were laid in a bed 4 ft. 8 in. English in width, each could have had no more than from nine to ten inches for his portion. But as a man of ordinary stature is eighteen or nineteen inches across the shoulders, it was, of course, impossible for the unfortunate people to be all in bed together, unless laid upon their sides and completely motionless. No one could move, or attempt to turn, without disturbing or waking those on either side of him; it was therefore usual for them to have the bed by turns, two or three sitting up, as long as they were able to do so, two or three lying down. And then the food and the physic destined for one was frequently given to another; the dying were frequently heard to curse the kindest hand that sought to soothe them; life in such wretchedness being less desirable or desired than death. Dreadful to relate, dreadful to think of, those who died in the night always remained mingled with the living till morning! By and by an *improvement*—the first that was made in the Hôtel-Dieu—was introduced: the testers were fitted up as beds, and the patients were placed in tiers one over the other! The heart sickens, the understanding shrinks from, the spirit is confounded, with the contemplation of so much misery; and yet this hospital existed fifty years ago, in the midst of a capital, the centre of the arts, of learning, of polished manners, beside the palace of an opulent archbishop, at the door of a magnificent cathedral! It was in such circumstances that the wretched sufferer from disease, under the deceitful mask of charity, was tempted to his destruction; for the diseases were of twice the duration at the Hôtel-Dieu that they were at La Charité, and the mortality was twice as great; all who were trepanned died, and the women in childbed fell victims in a frightful proportion.

At whose door lies the charge of this barbarous organization? At that of the medical staff? No, no; far otherwise. By an

inconceivable anomaly the medical officers of hospitals have never had more than a very secondary influence over their administration. No, but at that of the vulgar omnipotence of routine and of ignorance. "The Hôtel-Dieu," said the sage Bailly, "has perhaps existed since the seventh century; and if this hospital be the worst of all, it is only so because it is the oldest. There has still been a leaning to keep things as they were in the beginning; constancy in every thing has appeared a duty; hence the difficulty that aught new, however useful, finds in gaining an entrance. All reform was extremely difficult; the administration that must be convinced was numerous; it was an enormous mass to move." But this magnitude of the mass, the difficulties of the enterprise, did not daunt the members of the Academy of Sciences, with Bailly, Laplace, and Lavoisier, at their head. Every patient is now laid in his own bed; and that he is so is mainly due to the persevering unanimity, the courageous efforts, of the Academy of Sciences. The poor man ought to be aware of this; he will assuredly not forget it. Happy, my friends, happy the Academy that can crown itself with such dear recollections.—*M. Arago, in his Eloge de Bailly.*

[How sad to think that two of these noble natures fell victims to the fearful madness of the French Revolution!—Bailly and Lavoisier are said to have been carried to the slaughter in the same cart!—Ed.]

CASE OF TWINS,

IN WHICH BOTH PLACENTÆ WERE EXPELLED PREVIOUS TO THE DELIVERY OF THE LAST FŒTUS, WITHOUT CONSEQUENT HÆMORRHAGE.

By Samuel Tyler, M.D. of Frederick, Md.

My father was requested to attend a female in labour in the morning of the 6th July, 1843, 10 o'clock A.M. She had been delivered by her mistress two hours before (8 o'clock A.M.) of a fine child. In a reasonable time after the expulsion of the fœtus, the placenta was discharged. The mistress observed that the placenta presented an unusual appearance, and that the cord seemed larger than natural, but it was not until she had divided the funis that she discovered there was another fœtus "in utero," and that she had mistaken a double placenta and a double cord for an enlarged condition of those two important organs.

When my father arrived, he made an examination per vaginam, and discovered that the remaining fœtus presented the left shoulder. It was then more than an hour since the cord had been severed, and of course the life of the fœtus destroyed. In addition to the unfavourable circumstance of a shoulder presentation, there was firm hour-glass contraction of the uterine fibres around the body of the child. Having, in conjunction with the means usually calculated to relieve so firm a contraction of muscular fibre, made many unsuccessful efforts to turn the fœtus in order to convert it into a footling or breech case, he sent for me. On my arrival, I soon discovered (indeed it was for that purpose he sent for me) that embryotomy offered the only chance of relief to the female. After making several equally ineffectual efforts at turning, I proceeded to perform the operation, which consisted in removing with the scalpel the left arm, at the shoulder-joint, and then opening the thorax by a puncture or incision between two of the ribs, and thus partially evacuating its contents. The delivery was effected, after compressing the thorax and abdomen, by carrying up the right hand to the breech, passing the finger into the rectum, bringing down the breech, and then finishing the delivery "*secundum artem.*"

The patient was placed in a comfortable position, and every precaution taken to prevent, or rather to relieve, what seemed inevitable, viz: copious hæmorrhage; but none occurred; on the contrary, she went on favourably, soon entirely recovered, and is now nursing her infant.

Here therefore is a case not merely of simple placenta prævia, but a double surface exposed, there having been two placentæ; the fibres of the womb, first in a state of rigid contraction, then the irritation consequent upon the performance of embryotomy, and lastly a state of excessive relaxation, and still no hæmorrhage.—*American Journal of the Medical Sciences.*

DIVISION OF THE PORTIO-DURA; EXCESSIVE PAIN.

The following brief narration is interesting in a physiological point of view. A dancing-master had a tumor developed over the articular surface of the lower jaw, to remove which means of every kind were tried in vain: the tumor at length having acquired the size of half an apple, the patient consented to have it removed by operation, in the course of which, the surgeon saw that the trunk of the facial nerve passed right through the middle of the morbid mass, a mixture of steatoma and hydatids. Seeing no means of sparing it, the surgeon cut it through at one lusty stroke of the knife. The pain occasioned by this seemed horrible. The patient threw off the three assistants who were holding him, sprung from the seat, looked wildly around, and stretched out his hands in agony. The spectacle was made the more piteous by the semiparalysis of the face and distortion of the features that instantly ensued: the mouth was drawn

completely over to the other side, the angle on the paralysed side hung down relaxed, the cheek lay hollow and meaningless; the eye seemed sunken and smaller. It was by and by found that three-fourths of an inch of the trunk of the facial had been removed.

What is still farther remarkable is this: that the deformity did not continue even in the evening of the same day; the features had recovered themselves greatly, and after a fortnight, unless when the patient spoke, particular attention would have been required to perceive that anything was amiss with him.—*Bredow, in Caspar's Wochenschrift*, No. 12, 1844.

THE APOTHECARIES OF BRUGES.

In the year 1683, in consequence of a complaint preferred by the Apothecaries of Bruges, the medical practitioners were forbidden to dispense their own medicines under a heavy penalty. Only during the first three days of the annual fair were charlatans and tooth-drawers tolerated in that town.—*De Meyer, Origine des Apothicaires de Bruges*, Bruges 1842.

CASE OF ABSCESS OF THE TONGUE.

By Dr. Moller.

A locksmith applied for advice regarding a swelling under the chin, with violent pain at the root of the tongue, almost wholly preventing deglutition. Upon examination a large tumor was found in the tongue, that nearly filled the entire cavity of the mouth: it was dark coloured, and fluctuating. There was no time to lose. A bistoury armed with linen to near its point was plunged into the swelling, whereby a great quantity of thin pus was evacuated, and the patient straightway relieved. The wound healed in eight days. The tumor under the chin was treated in the same way. The patient was sixty years old, and of phthisical habit—a circumstance in accordance with what certain writers have advanced, namely, that phthisical individuals are more especially prone to this rare kind of abscess.—*Oppenheim's Zeitschrift*, Feb. 1844, p. 252.

THERAPEUTICAL POWERS OF IODIDE OF POTASSIUM.

In a communication to the *Provincial Medical Journal*, April 24th, Dr. Oke gives the results of an extended therapeutical experience of the iodide of potassium. He had not found it of any service in cases of abdominal tumor, scirrhous induration, or ulcerated cancer, lupus, indurated glands, scrofulous ulceration, affections of the lungs, enlargement of the liver, ascites, or encysted dropsy. The diseases in which he had found the medicine useful, on the contrary, were phagedenic ulceration, disease of the periosteum, and chronic rheumatism.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Gentlemen admitted Members, May 24.—H. Kingsley.—N. J. Dampier.—T. Callaway.—S. J. Remnant.—R. Ellis.—E. S. Protheroe.—R. H. Donovan.—J. M. Moullin.—J. Cowburn.—T. Hipwell.—W. C. Byass.—G. F. Wills.—H. Fearnside.

May 27.—J. T. Caddy.—C. J. Tomkins.—T. Willey.—W. Bourne.—N. Packer.—G. S. Penny.—K. Tomson.—S. Barnes.—W. Few.—C. Clarke.—W. A. Biddle.—C. H. Barker.

APOTHECARIES' HALL.

Gentlemen who have obtained certificates, May 23.—J. S. Taylor, Sheffield.—C. L. Prince, Uckfield, Sussex.—J. Horton, Bromsgrove, Worcester.—H. Ewins.—W. Parkinson, Bradford, Yorks.—G. P. Smith. Bradford, Yorks.—F. H. Hewitt.—E. M. Foster.—E. Callender, South Shields.—W. B. Ferguson, Bishop Wearmouth.—W. Hatton, Bolton.—W. R. Barrington, Dublin.—T. W. Challinor, Liverpool.

MORTALITY of the METROPOLIS.

Deaths from all causes registered in the week ending Saturday, May 11.

Dropsy, Cancer, Diseases of Uncertain Seat	90
Diseases of the Brain, Nerves, and Senses..	164
Diseases of Lungs and Organs of Respiration	243
Diseases of the Heart and Blood-vessels	24
Diseases of Stomach, Organs of Digestion,&c.	63
Diseases of the Kidneys, &c.	6
Childbed	3
Paramenia	0
Ovarian Dropsy	0
Disease of Uterus, &c.	3
Arthritis	0
Rheumatism	3
Diseases of Joints, &c.	3
Carbuncle	0
Phlegmon	0
Ulcer	2
Fistula	0
Diseases of Skin, &c.	0
Old Age or Natural Decay	53
Deaths by Violence, Privation, &c.	21
Small Pox	30
Measles	16
Scarlatina	41
Hooping Cough	38
Croup	8
Thrush	4
Diarrhœa	5
Dysentery	0
Cholera	1
Influenza	2
Ague	0
Remittent Fever	0
Typhus	30
Erysipelas	5
Syphilis	1
Hydrophobia	0
Causes not specified	3
Deaths from all Causes	862

Wilson & Ogilvy, 57, Skinner Street, London.

THE

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OF

Medicine and the Collateral Sciences.

FRIDAY, JUNE 7, 1844.

ON THE CAUSES OF OCCASIONAL FAILURE IN DETECTING CALCULI IN THE BLADDER.

By William Coulson,
Surgeon to the Magdalen Hospital, &c.

(*For the Medical Gazette.*)

Surgeons who have had much experience in the treatment of calculous affections must have often felt considerable difficulty in determining on the presence of stone in the bladder. Numerous instances are on record of large stones being found after death, the existence of which, though strongly suspected, could never be verified during life by the most careful examination. A short time ago I saw a gentleman who had been sounded by an experienced surgeon, who was unable to say whether there was a stone in the bladder or not; the examination caused a good deal of pain, and was never repeated. The patient died in sixteen months from the period of being sounded, and a stone was found in the bladder weighing four ounces and a half—too large, it is but natural to think, to have formed since the sounding: the bladder was rather small, and the prostate not enlarged. I have been informed that the largest calculus in the museum of St. Bartholomew's Hospital was taken from a patient who was often sounded, but in whom the presence of stone could never be ascertained during life, although there was little or no doubt in the mind of the surgeon of its existence. In the museum of the Royal College of Surgeons there is a bladder taken from a man who committed suicide after long and unalleviated suffer- from stone, the presence of which had never been detected, though he was repeatedly sounded by the late Mr. Abernethy and others. The bladder contains a large rough calculus of an oval form, and measuring in its several diameter, about $1\frac{3}{4}$, $1\frac{1}{2}$, and 1 inch. The mucous membrane is thickened, indurated, and superficially ulcerated. The muscular and cellular coats also are thickened, and the peritoneum and other tissues around the bladder appear condensed and unnaturally adherent. The ureters are dilated and thickened; both the bladder and prostate are of ordinary size.—(971 a, Bladder 31). "Repeated examinations of the bladder with the catheter," observes M. Civiale*, "have failed, even in the hands of the most experienced surgeons, such as Cheselden, Pelletan, and Dupuytren, to determine the existence of stone. Verzascha†, Benevoli‡, Duretus§, Riverius‖, Marcellus Donatus¶, Chesneau**, Valentin††, Riolanus‡‡, Morgagni§§, Covillard‖‖, Tolet¶¶, Colot***, Morand†††, Deschamps‡‡‡, and Chopart§§§, state facts which prove that large calculi, of the size even of a hen's or duck's egg, nearly filling the bladder, have escaped the most minute and careful examination. Even where there are numerous calculi they cannot always be detected. Colot is said to have sounded a man of

* Traité de l'Affection Calculeuse, p. 477. Paris, 1838.

† Obs. 52, p. 109.

‡ Dans Masotti, loc. cit. p. 31.

§ Schol. in J. Hotten. De Morb. Int., lib. 1, c. 46, p. 143. On trouva après la mort deux pierres pesant chacune deux onces.

‖ Praxis Med., l. 14, c. 2, p. 179.

¶ De Medic. Hist. Mirab., l. 4, c. 30, p. 543. A la mort du malade on decouvrit dans la vessie une grosse pierre.

** Obs. l. 3, c. 10, obs. 2, p. 354. Un calcul gros comme un oeuf d'oie fut trouvé après la mort du malade.

†† Chirurg. Med. sec. iii., c. 7; sect. ix., p. 352.

‡‡ Anthropogr. l. 2, c. 28, p. 150. Riolan cite à ce sujet le cas de Casaubon.

§§ De Sedibus, Ep. 42, art. 10.

‖‖ Obs. Iatro-Chirurg., p. 42.

¶¶ Traité de la Lithotomie, p. 77.

*** Traité de l'Op. de la Taille, p. 167, 170, et 172.

††† Traité de la Taille, p. 276.

‡‡‡ Traité de la Taille, t. i., p. 254.

§§§ Traité des Maladies des Voies Urin. t. i., p. 55.

sixty, and though unable to ascertain the existence of stone, operated on him, and extracted twenty-two calculi, which were hard, and of the size of a hazel-nut. Lapeyronie died of stone; his bladder contained a calculus weighing more than three ounces, which was not discovered during life, although he had been sounded several times. Portal and Distel also died of this affection, but in neither could the stone be detected with the sound until it was too late to operate. M. Kruger Hansen* relates the case of a man who suffered for a long time from dysury, and in whom a stone could never be felt. After death a very large calculus, covered with small pointed elevations, was found in the bladder." M. Leroy† also mentions similar instances.

Cases not unfrequently occur in which a stone is felt distinctly at one time, but cannot be felt at another, although the examination is made by the same surgeon, and, as nearly as possible, under the same circumstances.‡

A boy, aged 12 years, was admitted into one of the metropolitan hospitals with symptoms of stone: on the first examination, a stone was felt, but when the boy was put on the table to be operated upon, the stone could not be detected. He was brought a second time for the same purpose, but no stone could be felt. The parents shortly after removed him from the hospital. Not long after, the boy was brought to the General Dispensary, and the circumstances of the case related by the parent. It was determined to prepare the boy as for the operation for stone, and then sound him, so that in the event of a calculus beng felt the operation might at once be performed. Accompanied by Mr. Jeremiah Pereira, and some other friends, I went to the patient's residence. On introducing a sound, the calculus was distinctly felt; the operation was at once performed; and a calculus, weighing a little more than a drachm, removed. Last year two cases occurred to me in which considerable difficulty was felt by myself and others in detecting a stone in the bladder. One, a child three years old, had been taken to an hospital and examined three times, but no stone was detected. I saw the child afterwards and sounded it three times, allowing an interval of a month between each examination, and it was only on the third occasion that I detected the calculus. Just before operating, considerable difficulty was again experienced in feeling the stone; and it was not until the finger was introduced into the rectum, and the neck of the bladder raised, that the stone could be felt. The operation was then performed, and a stone composed of lithate of ammonia, and weighing one drachm and six grains, was removed. It was situated in a pouch at the neck of the bladder, so that the finger, on entering the bladder, passed over the calculus towards the fundus. I have no doubt that if the finger had been introduced into the rectum when the child had been previously sounded, the stone would have been felt.

The other case was a boy five years old, in whom I distinctly felt a stone on the first examination; but on repeating it a month afterwards I was unable to detect the calculus. The child was sounded by one of the most experienced lithotomists in the metropolis; but, after a careful examination, he could not detect a stone. After waiting three months, I sounded the child again; and at the extremity of the sound, towards the fundus of the bladder, I felt the stone. The operation was then performed, and a mulberry calculus, weighing one drachm and forty-three grains, was removed. The operation revealed the cause of the difficulty: the bladder was very capacious for a child of his age, and the stone was situated at its fundus. I could not touch the stone, as in ordinary cases, with my finger, nor seize it with the forceps, until pressure had been made over the bladder, and the child's body raised. In these two cases I had the able assistance of Mr. Quain.

The following interesting case, of a boy sixteen years of age, who had suffered a long time from stone, is related by Sir Benjamin Brodie*, and bears strongly on my present subject. "There were these remarkable circumstances in his case, viz. that the stone could sometimes be felt distinctly with the sound, appearing to be of a large size, while at other times it could not be felt at all; and that sometimes, when the bladder was empty of urine, it could be perceived distinctly with the finger from the rectum, while at other times, when there was urine in the bladder, it could not be detected at all by this mode of examination. In performing the operation, when I had introduced my finger into the bladder, I could at first discern no stone; at last I felt it on the anterior part of the bladder, behind the pubes. It was not lying loose in the cavity of the bladder, but evidently contained in a cyst, communicating with the bladder by a round opening. By means of a probe-pointed bistoury, I carefully dilated the orifice of the cyst, and then, introducing my finger, sepa-

* Beitræge Mecklenb. Aerzte, t. i., p. 115 et 123.
† De la Lithotripsie, p. 56.
‡ Fig. 9, Plate I., in Mr. Cross's work on Urinary Calculus, "refers to two calculi found after death in a gentleman who was about to submit to lithotomy; but the stone, previously ascertained to be in the bladder, could not then be felt."

* Lectures on the Diseases of the Urinary Organs, 3d edition, p. 322.

rated the membrane of it from the calculus until I was enabled to take hold of the stone with the forceps. The calculus is preserved among those in our museum. It was not only encysted, but adhering also; for it was brought away with a portion of the membranous lining of the cyst closely attached to it. The boy recovered."

Cysts or pouches are sometimes formed by the protrusion of the mucous membrane between the muscular fibres of the bladder, into which calculi, that had been loose in the bladder, and could be easily recognized with a sound, find their way, and cannot afterwards be felt; or it may happen, that when such a pouch exists, the calculus may sometimes be contained in it, and at other times make its escape into the bladder, a peculiarity which will readily account for a calculus being sometimes easily felt, and at other times not felt at all. The distinguished surgeon from whom I have just quoted* relates the following case illustrative of this condition of the bladder. "The case is, in many respects, remarkable. I discovered a stone in a gentleman's bladder; but he was advanced in years; and as, for the most part, he suffered very little inconvenience from the disease, he did not wish to go through any dangerous operation for the sake of obtaining relief; nor did I think it right, considering all the circumstances, to urge him to submit to it. He went on, in general suffering little or nothing. He was a convivial man, dining a great deal in society, as if he had no ailment. Every now and then, however, he was suddenly seized with the usual symptoms of stone in the bladder, and very severe ones too: he then sent to me. I kept him in the horizontal posture, prescribed him an opiate clyster, and in the course of a few days, sometimes sooner, sometimes later, the attack subsided; he was again at his ease, and enabled to return to his usual habits. I had been occasionally in attendance on him for three or four years, when he was seized with a severe cold, which ended in a pleurisy, of which he died. On examining the body, I found the stone imbedded in a cyst near the fundus of the bladder. The cyst was formed, in this case, not by the protrusion of the mucous membrane between the muscular fibres, but by a dilatation of both tunics of the bladder, the muscular as well as the mucous. The stone was not so closely embraced by the cyst as to prevent it occasionally slipping out of it; and I suspect that this actually happened, and that it was when the stone lay in the cyst that the patient was free from the usual symptoms of calculus, and that his sufferings took place when the stone escaped from it into the general cavity of the bladder."

* Op. cit. 3d edition, p. 258.

Again, the bladder may ulcerate, and the stone either wholly or partially escape.

The causes of the difficulty in detecting stone in the bladder may be arranged under the following heads:—

1. Enlargement of the prostate.
2. Fungous growths at the neck of the bladder.
3. Other morbid conditions of the bladder, as cysts, fungus, polypus, &c.
4. Certain peculiarities in the situation and size of the stone*.

When there is a fungous growth at the neck of the bladder, it must offer great obstacles to the detection of a calculus, and when a calculus becomes encysted an insurmountable source of difficulty exists. In other cases of difficulty, attention to a few practical rules will much assist us. In examining persons with enlargement of the prostate, who are suspected to labour under stone, a sound of the shape and curve of the lithotrite is certainly better fitted than the sound in common use for reaching the *bas fond* of the bladder, the probable situation of stone in these cases. Mr. Cross†, p. 55, mentions that Mr. Pearson, (more than thirty years ago), occasionally used a catheter of this shape, and found it enter the bladder when an instrument of a different shape would not. No examination of the bladder, when the prostate is enlarged, should be considered complete, in which an instrument of this shape (provided the stone is not felt with the common sound) has not been employed. Again, the introduction of the finger into the rectum, is an auxiliary, which, especially in these cases, and indeed in most other difficult cases of stone, should not be neglected. It is singular that M. Civiale, whose experience in calculous affections is so great, should speak so lightly of this mode of examination‡. In the second case which I have related, the stone could not be felt with the sound, until the finger was introduced into the rectum, and the operation was almost on the point of being

* I purposely exclude such a contracted state of the urethra as prevents any examination at all of the bladder.

† Treatise on the Formation, Constituents, and Extraction of Urinary Calculus. 4to. Lond. 1835.

‡ "En effet, veut-on explorer la partie prostatique de l'urètre et le col vesical? le doigt se trouve séparé de la partie malade par un plancher épais, dur et résistant, à travers lequel le tact le plus délicat ne saurait rien discerner. S'agit-il d'atteindre la pierre située dans le bas-fond de la vessie? pour peu que la prostate soit engorgée, et même alors qu'elle ne l'est pas, le doigt ne saurait arriver jusque là; sa pulpe appuie sur la face inférieure de la prostate, et rarement elle s'etend au bord posterieur, entre les vesicules séminales et les conduits spermatiques; les cas dans lesquels il serait le plus facile de palper cette région de la vessie sont précisement ceux où l'on n'a aucun intérêt d'introduire le doigt dans le rectum."—*Traité d'Affection Calculeuse*, p. 476.

abandoned. Mr. Cross says, "I should deem myself as little justified in omitting this method of exploration, as in operating without having sounded at all."

In children, and in grown up persons with irritable bladders, the contraction of the organ renders it difficult to detect the calculus; it is then embraced by the folds of the bladder, and escapes the touch of the sound. In this state, it is desirable not to examine the bladder in an empty state; and if this organ be irritable, the irritation should be subdued by appropriate means, to enable the bladder to contain a fair quantity of urine. In the first case which I have detailed, I have little doubt in my own mind that the fear of the operation caused the escape of the urine, and that the stone was consequently embraced by the folds of the bladder, and could not be felt. When the operation was performed, the boy had no previous knowledge of what was to take place, for I was in a state of uncertainty myself, from what had occurred, whether I should be able to feel the calculus. In the third case which I have given, the situation of the stone was the cause of the difficulty in detecting it. If a calculus be situated behind the pubes, as in the first case which I have quoted from Sir Benjamin Brodie, or be adherent to the fundus of the bladder, or be impacted in the vesical extremity of the ureter (one portion being within the ureter and the other projecting into the bladder, as occurred in a case of Dr. Prout's) great difficulty will be experienced in detecting the stone. In suspected cases of this kind the patient should be examined in various positions, and the bladder should contain a moderate quantity of fluid. Again, the small size of a stone may be the source of difficulty in detecting it. Sir Benjamin Brodie* says, "I have known the most practised surgeons, with the most delicate sense of touch possible, use the sound several times, where the calculus was of a small size, before they felt it so distinctly as to be satisfied of its existence."

* Op. cit. p. 277.

ON THE

DECREASE OF DISEASE THROUGH THE PROGRESS OF CIVILIZATION.

By C. F. H. Marx, M.D.

Professor of Pathology in the University of Goettingen.

(For the Medical Gazette.)

[Concluded from p. 301.]

Yellow fever is a disease which has several times invaded the continent of Europe, and upon the contagious or non-contagious nature of which the most opposite opinions have been entertained and published. The disease, however, is known to be endemical in countries where other forms of remittent and intermittent fever prevail, particularly the West India Islands. In healthy seasons the type of fever is there more simple, the disease is more mild; it presents the characters of simple intermittent or remittent fever, and yellowness of skin scarcely or never occurs; in unhealthy seasons, again, along with very general prevalence of the remittent form in every degree of aggravated severity, the yellow skin is met with frequently, and the disease becomes yellow fever, though it is but the old familiar malady. These bad forms of remittent fever are acknowledged never to extend beyond a certain elevation above the sea-line; this level passed, patients can be attended without the slightest risk of infection; and even the nurses and hospital-serjeants, who live among the patients in the feverish districts, when the disease is at the height, are observed to be but rarely attacked by it; when they are, it is because they have been exposed beyond the bounds of the barrack or hospital to the general causes which engender the disease. It may be said confidently that the most able and, in reference to yellow fever, the most experienced medical officers of the British army, have expressed themselves almost unanimously against the contagiousness of the disease. As to the idea of its having had its source and origin in slave-ships, this is plainly untenable. Fevers of the worst kind, yellow fever in its most aggravated form, may and do occur there; but this is because of the circumstances in which the unhappy wretches are placed on board of slave ships: the atmosphere of the hell in which they are crowded is poison as deadly to the lungs as any the deadliest drug we wot of to the stomach*.

* It is very sad to think of the fact, but there can be no doubt of its being true, that the attempts of the more civilized and humane nations of the earth to put an end to the slave-trade, should have rendered it infinitely more destructive than it used to be, and, to all appearance, scarcely to have abated its activity. The scarcity of the *article* has caused its price to rise, and held out a temptation to the cupidity of man which seems irresistible. The slavers are now built and fitted solely with a view to speed, that they may escape the cruisers, and without the slightest regard to the stowage of the *cargo*. The effect of this is, that living human beings are packed precisely as

Intermittent fever or *ague*, of which it may be said, more truly than of any other disease that it exerts its power in virtue of immemorial possession of the soil, is losing one domain after another. Although it lies not within the empire of wishes to win the marsh and fen for the use of man, by well-directed efforts and perseverance we still greatly contract their extent; we carry off stagnant waters by well-directed drains; turn aside the spring that floods the morass; and even shut out the sea from many a fertile acre seated below the level of its bed. In districts where rice and hemp are grown, it is found that much may be done to lessen the insalubrity of the culture by planting trees, and keeping the ditches well scoured; just as, in reference to towns, attention to the sewerage, to filling up old and stinking ditches, to the supply of pure water, wholesome food, and of airy houses, seems competent to put an end to ague in all its shapes, even in localities where it had established a title to be held indigenous and truly endemical.

The history of the improvement of the soil supplies us with the most striking and interesting examples in illustration of these statements*. The number of sick, and the ratio of mortality, have progressively become less and less; and spots that were formerly shunned as if they had been possessed by one of the worms or dragons of the old world of fable, may sometimes now be visited for their salubrity.

Dysentery used to be a disease extensively prevalent, and extremely fatal. It is one of the maladies, however, which is now actually of the rarest occurrence among us, and when a case does present itself it is rarely looked upon as dangerous*. This happy change is unquestionably due rather to the general improvement of the sanatory state of the community, than to the absence of any epidemical influence—unless, indeed, the presumed influence be regarded as synonymous with the neglect of every measure that conduces to the health of man, such as thorough drainage, wholesome food†, good water, and pure air, which indeed is the right interpretation of the term.

The *Asiatic cholera*, this singular product of the climatic and national elements of India, fell upon the countries of Europe as a new disease. But even in its sudden outbreak and gradual disappearance we had evidence of the influence and importance of the more highly civilized condition of our citizen-life. It seemed that it was only when favoured by transient states of political disturbance, or hostility between neighbouring nations, that it became possible for this scourge to pass the bounds that were prescribed to it. The success of the pains which the governments of Germany took to keep off the evil in its approaches will remain imperishably written in the history of its European progress, and afford ample proof of the importance of well-concerted and energetic measures of precaution‡,

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if they were lifeless mummies, and apparently without the slightest suspicion that they require more than room to sit up or lie down in; the space between the floor upon which they are stretched and the deck above them is not more than two feet and a half, and, as is said, sometimes not more than eighteen inches; and there are no adequate means of ventilation provided. Venetian senators, Spanish inquisitors, North American Indians, never inflicted such tortures upon their enemies or opponents as are thus ruthlessly, but unintentionally, inflicted upon the crowds of naked savages in the slaving-schooners of the present day.—ENG. ED.

* Many of the most agreeable and even healthy parts of England were at a no very remote period barren heaths, and pestiferous marshes. [All the world knows how the fens of Lincolnshire and Cambridgeshire have shrunk before the spirit of improvement; in innumerable districts where ague was once endemical, where young and old laid their account with an attack every spring and fall, the disease has not been seen in the course of the present generation; and in others, where it still lingers, it is less frequent than it was, and less obstinate. Many parts of Essex, and I presume it is the same with other districts, however, still hold great enmity with the constitution of strangers. It is very dangerous, for instance, for the Essex farmer to cross the Thames to seek his bride among the blooming maidens of Kent; if he does, he is almost certainly a widower within a few years.—ENG. ED.] Greece, reviving from the ashes of her former greatness, seems inclined to pursue the same path of improvement. "Since the marshes have been drained, the air of the Piræus appears to be as wholesome as that of Athens itself."—(Brandes' Intelligence from Greece, in German, Lips. 1842).

* Forty years ago, Heberden could say that there is scarcely any fact deducible from the bills of mortality more worthy the attention of physicians than the gradual decline of the dysentery. From 1700 to 1710, the average annual mortality from this disease was 1,070, from 1750 to 1760 it was 110, from 1730 to 1800 it amounted to no more than 20.

† In the year 1835, dysentery prevailed in the circle of Königsberg to a great extent. In one village, of 26 who were attacked, one-half only escaped alive. But this was a year of great scarcity, and it was found that the people to make their flour go further had mixed it largely with the pollin of the male catkin of the hazel bush.—Sanatory Report of the Med. College of Königsberg, 1837, (in German).

‡ See particularly Dr. W. Wagner's account of the progress of cholera in the Prussian states, from official sources. Berlin, 1832, (in German).

first against the invasion and then against the extension of pestilence; for here, as elsewhere, it was found possible in numerous instances, by steadily enforcing the measures of medical police that had been determined on, particularly by isolating the sick, and carefully purifying the houses in which the disease had broken out, to nip the mischief in the bud*.

At the time of the cholera, both when the disease was imminent, and when it had broken out, the humanity and good sense of the community were awakened in a remarkable manner—the poor, the miserable, and the vicious, were all alike cared for; the inmost recesses of poverty, wretchedness, and filth, were penetrated, and such measures of lustration enforced, as have had their influence upon the health of the communities up to the present day; even as the snow storm that perchance overwhelms the solitary wanderer is pregnant with vernal leaf, and summer blossom, and autumn fruit, and life and joy, to all besides, so cholera may fairly be said to have done good rather than mischief in the European countries which it visited: if it have failed of the good which it ought to have done, it is only because men have neglected the salutary lesson they ought to have learned from its visit.

It is impossible to estimate at its full value the zeal and self-devotion of the whole of the medical profession in the course of this great epidemic visitation; they never in a single instance shrank from the responsible, and, as they were generally held, dangerous duties which they felt to have devolved upon them; but, backed by the civic authorities and the police, shewed themselves conspicuously, as they ever are privately and unostentatiously, at the head of every movement that has the well-being and the improvement of mankind for its object. Truly and well did Tullius say, that "man never shewed more like the gods than in succouring his fellow-man." But the medical profession has, if possible, still higher destinies; it is even less interesting to individuals than to communities; it, in fact, serves the statesman and philanthropist as their guide in every effort to improve the physical and moral condition of mankind. Investigating the causes of disease and inefficiency, of premature decay and death, it indicates the means of averting these, or making them ineffectual; and so, without ever recurring to medicine in the vulgar sense, it prolongs life, and adds to the sum of enjoyment during the tenure of existence. It is in this direction that the enlightened member of the medical profession has especial claims upon the consideration of the state; it is with such grand ends in view as the general health and efficiency, that the state should shew itself solicitous to secure the highest possible amount of acquirement in the body of its medical practitioners.

Sea scurvy might be taken as a kind of unquestionable evidence that it rests with the future practitioner to discover and rightly to use proper means, in order not only to disarm the sorest bodily infirmities of their power, but even to put an end to them entirely. The ravages of sea scurvy in the navies of former times were frightful; in the present day the disease is unknown in every well-appointed ship. The orders of the Admiralty, that every vessel destined for sea during more than a certain very limited time, should be furnished with a quantity of lemon juice*, has made it possible to send

* In former times, probably, no question would have been raised as to the contagious nature of cholera. In these days nothing passes unquestioned; so that the contagious or non-contagious nature of cholera was soon the subject of active discussion among medical men. My esteemed friend seems a contagionist: in England, and in France, the non-contagionists may be said to have put the contagionists fairly hors de combat; not 1 in 20 was found at last with a word to say in favour of the contagiousness of cholera; 19 in 20, on the contrary, were fully satisfied that the disease was not contagious. The disease in fact, when at the height, showed itself in so many points simultaneously, that it was altogether impossible to explain its appearance upon the idea of contagion: to have attempted to do so would have been no less unreasonable than to refer influenza or hay-fever to contagion. In the course of a very few days the whole of Paris was invaded: between sunset one evening, and sun-rise next morning, the disease had begun and ended in several thousand instances—they that were alive and well the one day were lifeless corpses the next. In spite of the freedom and rapidity of our intercourse in England, many towns escaped entirely; in towns and districts where the disease presented itself, the majority of the cases were merely sporadic—half a dozen or more persons were seized and lost, the rest of the community remained unaffected. —Eng. Ed.

* Blane informs us (op. cit. p. 4), that in the year 1796, (the first in which the general supply of lemon juice took place) the sickness, instead of decreasing, gradually fell *per saltum*. John Woodfall, who lived for a time in the town of Stade, towards the end of the 16th century, was the first who indicated the curative powers of lemon juice.—See his Surgeon's Mate, Lond. 1617.

expeditions to the extreme north and south, and to maintain the companies through the rigours of a succession of arctic winters, without a single individual among them suffering from scurvy. The disease may be said literally to have disappeared from the British navy, in which every thing that science and foresight can do to secure the health and comfort of the crews is done. Even in the merchant service scurvy is extremely rare; instances, however, do every now and then occur, in which, through sordid villany, vessels are sent to sea inadequately found in wholesome provisions and needful medicines—to say nothing of their being without any medical man on board: there, and under such circumstances, does the disease still break out. But these cases are no more than exceptions to the general rule. In the naval hospitals of England sea scurvy will be looked for in vain*; he who would learn what the disease was in former times, must go to books, or to countries where the lights and usages of civilized life have but partially penetrated*.

Leprosy was at once the most dreaded and dreadful disease of antiquity and the middle ages, when it seemed to have spared no rank or condition of society*. The disease appears to linger endemically at this time in one isolated corner of the coast of Norway†; from all the other countries of Europe it has vanished. In former ages thousands of leper-houses were found necessary to receive the multitudes who suffered from this disease in its most aggravated forms, and when it was held contagious‡; when a case of Greek leprosy occurs in one of our hospitals now, all the world of medical men crowd to see it, probably for the first and last time in their lives§; and then the subject of the disease is almost always a negro, or a man of mixed blood, and a native of some of the warmer countries of the earth. The extension of leprosy over Europe in the middle ages was ascribed to the return of the crusaders to their homes, by whom it was generally believed to have been imported. If this were actually the case, it is certain that European civilization has cast out the evil again, and that, with the remarkable exception mentioned, the disease is now only encountered in lands where medical science stagnates, and where the indolence, the superstition, and the ig-

* In my visit to England, in 1841, I myself inquired for the disease in vain, as I have said in my "Recollections of England," Brunswick, 1842.

[There is, nevertheless, every now and then an opportunity of seeing scurvy in the River Hospital Ship "Dreadnought." It would be wonderful, indeed, if out of the multitude of ships of all nations that crowd the Thames, some one did not occasionally put in tempest lost, wind bound, detained from her port long beyond the expected time, with her crew suffering from scurvy. The poorer class of merchant ships, however, are known often to be very inadequately provided for the long voyages they have before them; and from what the medical officers of the Dreadnought occasionally see, as well as from what has transpired upon other occasions, it is not going too far to say, that some better measure of police than any that may perchance exist seems imperatively demanded in this direction. —ENG. ED.]

† Two hundred years ago scurvy was among the most frequent diseases in London. Graunt, in his Observations upon the Bills of Mortality, speaks of it as among "the casualties that bear a constant proportion unto the whole number of burials." The disease has now disappeared. In Paris scurvy is also so rare a disease, that Andral says (Essai de Hématologie Pathologique, Paris, 1843):—"Les scorbuts bien caractérisés sont si rares à Paris, que pendant long-temps j'en avais été reduit à une simple conjecture sur l'état du sang dans cette maladie." In Archangel, however, scurvy appears to be still endemical among the poorer classes (Richter, Topography of Archangel, p. 121, in German.)

[Lord Anson, and other navigators and writers on scurvy after him, indicated the cochlearia or scurvy grass, cabbage, and green vegetables generally, as the grand restoratives from scurvy. The *potato* has been lately pointed out as even more effectual, both in a prophylactic and restorative point of view. Probably the universal use of this excellent root is the main though unsuspected cause of the immunity we now enjoy, both afloat and ashore, from scurvy.—ENG. ED.]

* The Roman Emperors, Augustus and Tiberius, both bore traces of leprosy upon their persons (Vide Hensler on the Western or Greek Leprosy, in German, Hamburg, 1790, p. 254.)

† See a brief but interesting notice of this disease, by M. Danielssen of Bergen, in Comptes Rendus, No. 14, 1844, and Lond. Med. Gazette, June 7, 1844.—ENG. ED.

‡ In the 13th century the number of leper-houses in Europe was estimated at about 20,000. (Vide Möhsen, Account of a Berlin Collection of Medals, vol. ii. p. 281, in German.)

[See also the interesting papers of Dr. Simpson, of Edinburgh, on Leprosy and Leper Hospitals in Scotland and England, published in the Edinburgh Med. and Surg. Journal, vol. lvi. p. 301, and vol. lvii. pp. 121 and 394. He gives the localities of upwards of 100 leper hospitals in these countries.—ENG. ED.]

§ Riecke, in his Contributions (p. 22), says that in the course of twelve years nearly twenty cases of elephantiasis had been observed at the surgical clinicum of Tübingen.

[If the diagnosis were well established in these cases, the above fact would indicate some local influence, in or near the town of Tübingen, favourable to the production of the disease. I have not seen any thing of the same kind stated in connection with any other hospital, either in England or the Continent. I have myself several times seen the Arabian elephantiasis, *Elephantiasis Arabica*, in London, both in hospital and in private practice; but this is a very different disease from the Greek leprosy, *Eleph. Græca*.—ENG. ED.]

norance of the inhabitants, still consent to give it room to exist, and material to feed upon.

Small-pox.—It is doubtful whether this loathsome disease was known to the ancients or not; for many centuries, in modern times, at all events, it was reckoned as among the inevitable calamities of the human kind: since the discovery and general practice of vaccination, however, it has almost disappeared in some districts, and has diminished notably in its destructive powers in all. Among all the benefits which humanity ever received through man, no greater, or more important in its consequences, can be named than this. Till Edward Jenner lived, one-twelfth of the whole human family was swept away by the pestilence of small-pox, and a much larger proportion was left bereft of sight, or shattered in constitution and hideously scarred, as evidences of its destructive power. Jenner's immortal discovery immediately, and as if by magic, set bounds to the pestilence. The number of cases, whether of genuine or of modified small-pox, which have appeared since Jenner's time, cannot be compared with the host that presented themselves previously. Even in the period when the influence of vaccination was less understood than it is at present, when content with a single operation at the beginning of life, and this often imperfectly performed, all kind of reasonable and necessary precautions against contamination were neglected, the mortality from small-pox was still infinitely less than it used to be in former years*. In all those states which have taken the business of vaccination into their own hands, in which ample supplies of active virus are carefully provided, and where revaccination is encouraged in every possible way, small-pox may be confidently, and without any exaggeration, said no longer to exist as a formidable disease†. Vaccination is, indeed, a brilliant illustration of the advantages of civilization; it is one of the precious fruits that spring from human thought and inquiry; it is one of the costly prizes won by hearkening, with tutored ears, to the still, small, accents of nature, which escape the uncultivated sense entirely. The health and life of millions, without sacrifice at the shrine of pain, and without denial, are assured through its means. This great discovery sprung complete from the labours of Jenner, like another Minerva in arms from the brain of Jove! and soon, like Pallas to instruct, did it set out, over the face of the habitable globe, on its God-like mission to save; nor did it once pause till it had penetrated to the helpless Indian under the shadow of the everlasting forest, and to the far Cathay! Thus does civilization, with her blessings, come to influence the savage and the semi-barbarian; favourably impressed through obvious advantages, he is prepared for the reception of the other less manifest, but not less momentous, privileges and immunities that follow in her train*.

Is it necessary to adduce other instances, in order to prove that civilization not only does not add to the number, or increase the severity of diseases, but, on the contrary, that its

* Even in Archangel, from 1822 to 1826 inclusive, no more than a couple of cases of small-pox were observed at the Marine Hospital; the number seen in the Civil Hospital, during the same time, was only six! (Vide Richter, op. cit. Table, p. 149.)

† In Prussia, for instance, between 1820 and 1834, of one million of deaths, 8,191 were from small-pox, or 1 in 122 (Hoffmann, in Prussian Medical Gazette, 1835, No. 45). [In England, our admirable returns shew us that small-pox was actually less destructive in 1841 than either measles, scarlatina, or hooping-cough. In this year, 14,161 died of scarlatina, and only 6,368 of small-pox!—Eng. Ed.]

* There is extant a letter from the five nations (North American) to Jenner, in which the following beautiful passage occurs: "We shall not fail to teach our children to speak the name of Jenner, and to thank the Great Spirit for bestowing upon him so much wisdom and so much goodness." (Life of Jenner, by J. Baron, vol. ii. p. 103.) Halford, in his discourse "on some of the results of the successful practice of physic," advocates the propriety of sending medical men, as missionaries, into uncivilized countries, knowing full well that the feeling of thankfulness for physical good was the surest passport to the understanding and the heart. It was Gabriel Boughton, the surgeon, who paved the way to the establishment of the East India Company, and who, by doing so, threw open the vast peninsula of Hindostan to the civilized world. The medical officers of the East India Company's service have, in fact, been at all times a principal bond of union between the natives of India and the British (see Mill's History of British India, vol. i. p. 170).

French missionaries had the honour of introducing lancets from England, charged with cow-pock lymph, and a translation into the Chinese tongue, by Sir G. Staunton, of Jenner's pamphlet on vaccination, into Pekin, the capital of China; and Mr. John Barrow soon after wrote to Jenner to inform him that his work, in Chinese, had actually been published in Canton, and that the practice of vaccination had already made great progress (Baron's Life of Jenner, vol. ii. p. 85). "Thus," he remarks, "the English, at length, have established their claim on the gratitude of the Chinese."

invariable effect is to lessen their force, and frequently to vanquish them entirely? Surely it is not. Almost every one of the innumerable host of ills that assail mankind, when searched into in its causes and connections, gives us new assurance of this consolatory truth. In the same proportion as the arts and sciences, as morals and true refinement, advance and approach perfection, are the means multiplied by which human life is assured against enemies both from within and from without. True knowledge and true good go hand in hand together. The old Grecian Mythus proclaimed light to be joy, to be bliss also; Phœbus Apollo, who illumined the world, was likewise the healer; to him was the all-hail given, and the pæan, the song at once of joy and thanksgiving, upraised. What antiquity, in mythic foreboding, announced, in the lapse of millenniums is made manifest. The more humanity attains to the knowledge and the evolution of all its capabilities, the more surely will the full harmony of corporeal existence also be unfolded. It may, with every reason, be said, therefore, that intelligence is not only synonymous with moral power, but also with bodily health. Access to the treasures of mind is denied to none; the art of printing, and our educational institutions, place participation in the highest good within reach of all. Medicine has not lagged behind the other evangelists of enlightened humanity; on the contrary, she has ever been foremost in the race, where the object was to enlighten and to raise; and as her purpose has still been to root out disease, and to lessen its power—to help the sick and the suffering, to confirm the healthy and the strong—so has she also striven to make her truths common property, irrefragable evidences of civilization.

REPORT
ON THE
ROYAL MATERNITY CHARITY.

By F. H. Ramsbotham, M.D.

(For the London Medical Gazette.)

[Continued from p. 281.]

During the year 1837, there were delivered in the Eastern District of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham,—

2140 *women—Of which cases,*

26 were twins—about one in every 82⅓ cases: of these, in 12 cases both heads presented; in 11 the head and breech or some part of the lower extremities; in 1 both breech or some part of the lower extremities; and in 2 the head and shoulder. In 7 of these cases both children were boys; in 8 both girls; and in 11 they were of different sexes. One of them was premature.

1085 children were males.

1081 children were females.

2113 were presentations of some part of the head, of which, 10 were face-presentations—about one in every 216½ births; and one was an ear presentation.

40 were presentations of the breech, or some part of the lower extremities—about 1 in every 54 births; of these 13 were twins.

13 were transverse presentations—about one in every 166½ births; of these 2 were the second of twins, one was born still, the other living, 53 hours after the birth of the first child. In one case the fœtus was expelled doubled, or by the "spontaneous evolution," at full time, still. Four were premature, and all passed doubled; two of these cases were at 7 months; in one labour was voluntarily induced, the pelvis being narrow at the brim; the presentation was the side. The other two were at five months; one was an abdominal presentation, and there was hæmorrhage before delivery. All these children were born dead. With two the placenta presented at the os uteri; one of these children was extracted living; the other dead. In the latter case the woman went on very well for a month; when she put herself in a violent passion, and died suddenly. In the other four cases the children were born dead. One of these women also died on the evening of her delivery; being perfectly exhausted from the want of the common necessaries of life. The operation of version was performed in all the cases except the five just detailed.

In 3 the placenta was implanted entirely over the os uteri—about one in every 713 cases; the patients were all delivered by "turning;" in 2 the shoulder was at the brim; 2 of the children were born dead; 1 living;

two of the women did well; the other died suddenly as stated above.

10 were complicated with alarming hæmorrhage before delivery, *not* the result of placental presentation—one in every 214 cases. Three of these children only were born alive; one presented with the feet; one was a case of twins at 6 months, both born dead; 3 others were premature; one at 5 months, the abdomen presented; the other two about 7 months. None were delivered artificially, and in most of the cases the membranes were ruptured with manifest advantage.

In 16 the placenta was retained within the uterus, either by atony, or irregular contraction of the uterine fibres, or by morbid adhesion between the uterine and placental surfaces—one in about every 134 cases. One woman died from the effects of hæmorrhage on the third day; the case was premature.

1 was complicated with violent hæmorrhage immediately after the natural expulsion of the placenta; it was restrained, however, by common means, and the patient did well.

2 women were delivered by craniotomy—one in every 1070 cases. One had had children before, and always lingering labours: I had once before delivered her by craniotomy: although the head was in the pelvis, as the child was putrid I thought it better to open the head than to attempt delivery by the forceps. In the other case the child was also putrid in the highest degree, and though a portion of the scalp was external, I perforated the skull; this was her first child, and there was a slight deformity of the pelvis. Both the women recovered.

3 were delivered by the forceps—about one in every 713 cases; one by the long, two by the short instrument; where the long was employed it was the woman's ninth child; she always had had lingering labours in consequence of her pelvis being distorted at the brim. When I saw her the membranes had been broken 20 hours: the pains were very strong, and the head had made no advance for many hours. The face was looking towards the right groin; the chief part of the head was above the brim, and the right ear could with difficulty be reached behind the left groin. I applied the long forceps, one blade over the left brow, and the other behind the right ear, and delivered in about 20 minutes. The head was very much elongated. The child was born living. One of the other children was also born living: with the last the funis prolapsed, and the child was born dead. All the women recovered.

3 were complicated with puerperal convulsions; one before, (the child was born naturally, dead), and two after delivery—about one in every 713 cases: one occurred 12 hours after delivery. Both these women did well. The other 10 days after delivery: the attack occurred on Christmas evening: the woman was as well as could be: she had eaten a hearty dinner, had taken some beer, and was enjoying herself with her friends very injudiciously, when at 9 o'clock she was seized with apoplexy, and one convulsion took place: she continued perfectly comatose, and died at 12 the same night.

In 1 case premature labour was induced; the child presented with the side, and was expelled doubled, dead.

In 1 case the uterus ruptured itself during labour. This was the patient's fourth child; all her previous labours had been lingering. The membranes had been broken about 40 hours when I first saw her, but she had had no strong pains: the midwife became alarmed by symptoms of exhaustion rather suddenly occurring. I found her cold, vomiting a black coffee-ground-like matter, and with a sunken, death-like countenance. I immediately detected a laceration in the anterior part of the cervix uteri, and the feet presenting. I extracted the child, but was obliged to perforate the head. I afterwards introduced my hand for the removal of the placenta, which I found lying loose among the intestines; it, as well as the child's body, having escaped into the abdominal cavity. The child was putrid. I was assured that the head had originally presented; so that it, as well as the trunk, must have escaped into the abdomen, and given an opportunity for the feet to fall, as it were, down to the brim of the pelvis. I have known the same change in the position of the child occur in another case after laceration of the cervix uteri. She died in 8 hours. I could not learn that this laceration was attended with any immediate prominent symptoms; and neither the mid-

wife nor any body about her had the least idea when it occurred. On opening the body next day, we found about six ounces of coagulated blood in the cavity of the abdomen; there was a rent six inches in length in the anterior part of the cervix uteri, horizontal in direction through the greater part of its extent, and then proceeding upwards towards the left broad ligament: the part of the uterus in the neighbourhood of the rent gave way on the slightest force being applied, and the whole organ was much softer than is usual. A great portion of the small intestines was almost black, and there were evident traces of abdominal inflammation of some standing. The pelvis in its conjugate diameter at the brim measured rather less than three inches.

13 women died either from puerperal causes, or within the puerperal month —being about one in every 165 cases. Only 8 however, as a consequence of labour—or one in every 267½ cases; for three died of phthisis; one of influenza on the 8th day, and one of typhus on the 30th day after delivery.

2079 children were born alive.

87 were still-born—about one in every 25 births.

Of the Deaths,

1 was on the third day after delivery, from hæmorrhage consequent on a strongly adherent placenta.

1 a month after delivery under placental presentation. The woman died suddenly, in consequence of putting herself into a violent passion. She appeared to have recovered completely from her labour.

1 from apoplexy ten days after delivery, in consequence of excess as stated in the paragraph "convulsions."

1 eight hours after delivery, under a ruptured uterus.

1 the day after a lingering labour.

1 a few hours after delivery under a shoulder presentation; the woman was perfectly exhausted for want of necessaries.

1 from peritonitis on the fourth day after delivery.

1 from influenza on the eighth day after delivery; she had been ill with the disease for many weeks.

1 from pneumonia in the fourth week after labour.

1 from typhus fever 30 days after labour.

3 from confirmed phthisis; one 5, another 10 days after delivery; and the other 3 weeks.

Of the still-born children,

22 were premature.

15 were putrid, at full time, or nearly so.

5 were presentations of the breech or inferior extremities, at full time or nearly so.

6 were transverse presentations, at full time or nearly so.

With 1 premature labour was induced. The side presented.

2 were delivered by craniotomy.

2 under placental presentation; one was a transverse case.

4 after alarming accidental hæmorrhage.

2 under convulsions.

2 under very lingering labour.

With 8 the funis prolapsed by the side of the head; one was delivered by the forceps.

3 after the mothers had suffered some severe accident near their full time.

1 after rupture of the uterus.

With 1 the mother was dropsical.

1 was a face presentation.

1 was monstrous.

1 was ascitic.

10 were at full time, not putrid, nor delivered by art, there being no evident external cause to account for the calamity.

PUERPERAL CONVULSIONS IN A TWIN CASE.

ARTIFICIAL DELIVERY; COUNTER-IRRITATION TO SACRUM; ANTI-SPASMODIC ENEMATA; RECOVERY.

By Robert Paterson, Esq.
Surgeon, Glasgow.

(For the London Medical Gazette.)

At 1 A.M. Sept. 15, 1843, I was summoned to attend Mrs. S. æt. 27, in labour with her first child. I found that labour pains had existed about three hours; the os uteri, scarcely the size of a crown-piece, was rigid; the presentation footling; the membranes entire. The patient complained of headache, from which she had suffered much during the latter stage of pregnancy. The atmosphere was very hot and oppressive. At half-past two, during a pain, she was seized with a severe

convulsion, which lasted five minutes. The head and shoulders were immediately elevated, and 30 oz. of blood drawn from the arm in a full stream; the hair was removed from the scalp, and cold applied. Insensibility remained, and she was soon attacked with another frightful convulsion, when 30 oz. more blood were taken away, as the pulse was still good. Delivery was now decided upon; the membranes ruptured, the feet brought down, and the head extracted with the aid of the forceps. While engaged in this procedure, a third fit occurred, during which all attempts at delivery were necessarily suspended. The child was a male, still-born, but might probably have been resuscitated by a continuance of the proper measures, which were unfortunately interrupted by the occurrence of a fourth convulsion. A second child was now discovered presenting with the head. The catheter was passed, and the membranes ruptured by the hand, when a powerful pain brought the head down within reach of the forceps. The fifth fit now occurred. The patient was again bled to 20 oz. and as soon as the fit was over the forceps were applied, and a female child extracted. This was also still, but by much perseverance was resuscitated. The placenta came away easily, with few clots, and the delivery was completed by 4 A.M. On attempting to apply the usual bandage, a sixth fit took place. Mr. Lyon was summoned in consultation, and in about half an hour saw the patient. Between 10 or 12 oz. more blood were removed; in less than twenty minutes a seventh fit occurred. The patient now lay in a state of apoplectic stupor; the lips were puffed out with each inspiration, as in smoking; the pulse was hurried and small, and sometimes scarcely perceptible; the extremities and surface generally cold, and covered with a clammy perspiration. Sinapisms were applied to the legs, and a stimulating clyster exhibited. At 7 A.M. reaction had taken place; the sinapisms had acted well, and the enema brought away a copious offensive dejection; cold was continued to the head, and two grains of calomel were put into the mouth. At 2 P.M. as she had no return of the fits, the bandage was attempted to be applied, when the eighth fit occurred. On consultation, cupping was thought unadvisable, but a blister was directed for the scalp, mercurial frictions to the arms and thighs, and calomel grs. ij. every hour. By 6 P.M. five more fits had occurred with unabated severity; the heart could not be heard beating, and the respiration became inaudible. The blister was removed from the scalp, the legs and feet enveloped in sinapisms, the lumbar and sacral regions rubbed with spirits of turpentine, and the sacrum covered with a blister. An enema of hyoscyamus, valerian, and assafœtida, (ʒj of the tinctures of each) was administered. The respiration soon became more audible, but the pulse in the extremities could not be detected till 10 P.M.

16th, 5 A.M.—No return of fits; continues unconscious; has been very restless; blister has risen well; bowels are acting involuntarily; has had three clysters. To continue the calomel every two hours—the mercurial friction to the thighs only, and cold to the head. She now gradually recovered, but remained unconscious till 56 hours had elapsed from the first attack. She suffered acutely from pulsative headache and salivation, but was able to leave her bed in eight days, and returned to domestic duties at the end of a fortnight.

Remarks.—In this case I believe that I had to contend with sanguineous apoplexy, which fortunately proved to be only of a congestive character. While I dare not regret the extent to which blood-letting was carried, for it is impossible to say that recovery would have taken place had less blood been abstracted, yet I strongly suspect less might have sufficed. Notwithstanding the enormous quantity removed, the fits did not remit, but increased in frequency and violence till 6 P.M., ten hours after the last bleeding, and during which the pulse continued small and feeble. The blister to the scalp, I conceive, proved injurious rather than beneficial, as it was followed by more determination to the brain, evinced by greater lividity of the countenance in the intervals, and a more rapid succession of the fits. It was, in fact, when all hope appeared to have fled, and the patient was regarded as irrecoverably lost, that counter-irritation over the sacrum was adopted, together with injections composed of the Tinctures of Hyoscyamus, Assafœtida, and Valerian,

(aa. ʒj.) and I hesitate not to state that every step in the onward progress of the treatment proved abortive till the uterine system was specially acted upon. By the previous application of turpentine, the blister to the sacrum acted pretty efficaciously in three hours, and from the immediate results, I feel persuaded that, if earlier employed, the patient would have been spared much suffering, and relieved from the agonizing pulsative headaches and other ills attendant upon an extensive loss of blood.

As it seems pretty certain now that profuse blood-letting does not at all times arrest puerperal convulsions, caution must be exercised lest the abstraction of blood be carried so far as to endanger life. Out of 54 cases recorded by Dr. Lee, 19 deaths occurred, in many of which bleeding was largely resorted to; while in the 35 recoveries the majority were bled sparingly. Believing the primary irritation to be seated in the nervous ganglia of the uterus—ganglia which enlarge with the coats, blood-vessels, and absorbents during pregnancy, as demonstrated by Dr. Lee—I strongly recommend counter-irritation over the sacrum, in conjunction with soothing and antispasmodic enemata, after the primary and indispensable measures of bleeding, delivery, and free evacuation of the bowels. The employment of counter-irritation I consider as entirely new, and that of anodyne enemata to be barely mentioned, and not insisted upon by the best obstetrical writers.

ON CONSTITUTIONAL IRRITATION OR GENERAL DISTURBANCE.

By T. Wilkinson King, F.R.C.S.E.

[Continued from page 284.]

Organizable (?) deposits are but growths.—Symmetry, humoral, &c.—Some analysis of depression, and of sympathy, general and contiguous.

New growths.—As to the idea of a clot of blood or a mass of fibrin, plastic lymph, or any thing of the kind, becoming organized, that is to say, having vessels shoot into it to make it a living tissue, we freely confess our ignorance, and that we are averse to such doctrine.

When a membranous vascular layer gradually extends itself over the albumen, or over the yelk of an egg in incubation, we conceive it to be simply new growth facilitated by these animal fluids and their membranes. Mr. Hunter's view of the vitality of the egg is modified by the consideration that the impregnating germ is the only source of living actions, and that vessels from the chick are but as roots in the earth.

It remains to be shown, that besides simple repair of injured organized tissue, any other vascular formation can take place than by simple growth. This, no doubt, microscopically, is in part by vascular shoots or arches. It is said that the museum at Guy's presents instances of solids, cognizable by common vision, *becoming* organized; but our perception has been hitherto confined to vascular growths, and we venture to observe that fifty doubtful examples are no better proof than one. In the end of phthisis, a new delicate vascular layer may rapidly form over a hemisphere of the brain, but the morbid anatomist seeing this in every gradation of its formation, must conclude that it is merely modified growth. This organization is totally different from what has been called plastic effusion, and organizable lymph or fibrin. We know nothing of *organizable deposits.* The course of deposits is totally different from that of living tissues, for though, like blood, they may not decompose, they can only, so to speak, dry up, or be more or less completely washed away or absorbed. Cartilaginous serous membrane is slow anormal hypertrophy. Cellular adhesions are produced by vascular inosculations, of serous surfaces, becoming stretched, perhaps to half a yard, in the abdomen. All mere fibrinous or albuminous masses, films, webs, and layers, are but coagulations from fluid effusions, and though found in many different forms and stages, and even bound up in vascular growth, they are neither organized nor organizable. Joints and blood-vessels, and mucous passages, present various true polypoid growths (simple and malignant); but a clot of blood or isolated mass of any kind (differing from the tip of the finger) cannot *begin* to receive blood-vessels. In all this we do not pretend to encroach on the beautiful observations of our admired microscopists, and we hold that in turn these observers must not infer too much by comparing small things with great.

A slough or caries, like a nail, may

adhere to organized parts, and though certain tissues may seem more particularly extra-vascular, it must be apparent that all living tissues are essentially external to their capillaries. Inflammatory products and new growths appear to present themselves in parallel gradations to the preceding. Strumous matter is at one time mere deposit; at another, dead organization. Cancerous tuber may die, and be long shut up as blood or fibrin, but the rise and arrest or progression of even the most local of the foregoing alterations, are inseparably dependent on the general state of the system.

With a certain condition of the body, organized membranes spread within a joint rapidly and copiously. They spring and grow from vascular parts, and creep only where repose or the absence of pressure permits, in layers or serpentine bands; but in themselves, properly considered, they most resemble, as we think, granulations tending to fill up, though ill and feebly, a cavity where the forces which should resist such changes are wanting.

Symmetry in irritations.—The symmetrical arrangement apparent in diseases is better explained by reference to humoral, physical, and nervous principles combined.

The ingenious and original study of Dr. W. Budd, on "Diseases which affect corresponding parts of the body in a symmetric manner (Med. and Chir. Trans. vol. xxv.) is a valuable contribution to *humoral* pathology. The paper of another able investigator, Mr. Paget, (in the same volume) serves to illustrate both *physical* and *humoral* agencies. The researches of M. Bizot, (Mém. de la Société, vol. i.) have a similar use. Illustrations of the subject abound in every museum, and in every ward, and even the oculist, dentist, aurist, and chiropodist, see very much of morbid symmetry.

We suppose that the symmetric acts of the morbid body, as well as of the healthy body, indicate principally a humoral agency. There is a primitive disorder in the blood, as the general cause from which local changes spring. The special or local causes of such symmetrical developments are distinct and various. The whole form of the femur or of the little toe is determined by the tensions and pressures (and even by the vibrations as to cancelli) that the part grows under. The size of two corresponding parts is in relation to their exercises, and to their distance from the nutrient source. Their degree also of development and vigour depends on the activity and healthfulness of the sanguineous supplies.

The processes of modelling and absorption depend on diminutions of pressure or disuse, and also on the defects of nutrition, and as a complex series of causes which give rise to normal symmetry are liable to similar perversion in opposite parts, so the anormal symmetry may be produced.

As to the individual causes of symmetry, they appear most of them very simple. Mr. Paget justly says, "the same influence on two similar parts will produce in both the same results." We see these influences regulating the equal growth of limbs. They are external, as temperature; or internal, as, for instance, the motions of the part, its humoral supplies, and its innervation. We have symmetry, in short, affected from the first period of development, by mechanical, humoral, and nervous functions.

The mere fact of attraction of affinity at insensible distances would seem to be sufficient explanation of the regular form of crystals. The molecular attractions of our bodies may be said to be restricted within a circle of about three feet radius, or in the fœtus of less than one line; and the vital acts are necessarily proportioned to the material resources within a body, and to the influences operating externally on each part, as on the whole.

The first point of bone in the body of a vertebra is subjected to symmetric forces, and therefore to symmetric growth, whilst that in a patella has, so to speak, half of such forces to regulate its form.

To regard symmetric irritation as a law, would seem even as a final cause to be an unsatisfactory idea, inasmuch as such law is *always* broken, for *exact* symmetry never yet has been established, either in health or in disease; and the reason of this of course must be, that the forces of causation are almost invaribly non-symmetric in some degree, as in the differences between the right hand and the left. It is to be remarked, that the want of precise symmetry is manifest in all the drawings of Dr. Budd and Mr. Paget.

With enough of fluids and of power

to commence the basis of two legs and arms, the equivalent of matter or of strength for an extra digit may be wanting.

The further symmetric course of events we may illustrate by reference to very common circumstances.

A blow on the vertex fractures the calvaria symmetrically; the jaw grows, wastes, or luxates, symmetrically. The form and circumstances of the patellæ decide that both shall break simultaneously. Disproportionate nutrition makes the gastrocnemii on each side tear their tendons, or become cramped after exertion. The same exercises of the two knees induce symmetric ganglia on the patellæ, while the state of the blood determines that the tumors shall be fluid or dense, and that now they inflame simultaneously, and now are quiescent together. The miner's elbow ganglion is caused by undue pressure on one arm, and aggravated by undue reparative acts.

Instances of symmetry by deficiency in the blood are seen in pallor, cold feet, chilblain, frost-bite, gangrene, hectic flush, ulceration, lupus, and various atrophies and absorptions, as of the neck of the femur, and in all senile decay.

Symmetry of plethora is seen in florid or fat persons, and in various hypertrophies, but we understand that if one side takes on hypertrophy, the means of hypertrophy may be there all expended. This and the converse will find wide application in pathology. Symmetries resulting from sanguineous deteriorations occur in anasarca, onychia, in scurvy, and in simple fever also. The like seem at times to depend on the excess of certain materials in the blood, as the matter of warts and exostoses. Cancer or tubercle, with bad *elements* of nutrition, affects the two thigh bones, or the two lungs. Poisonous fish may cause symmetric eruptions. Argenti nitras acts on all the skin; lead on all the muscles, but most on those which are most used by the painter*. The materials of gout and rheumatism, it is true, are said to fly here and there, but we think this is far too simple an idea; for the attendant inflammation, tumefaction, softening, adventitious deposits, and reparations, are complex affairs, the stages of which are nowise defined (the difficulties are not explained) by the mere presence or absence of so much urate or lithate in the system.

If we find the biceps of one arm with three heads, we know that we may expect something similar in the other member. We think, too, that such cases belong more particularly to the muscular diathesis. So, on the other hand, we find muscles variously deficient in pairs, and the like also of most tissues. In lepra the materials of cuticle appear to be in excess, and also deteriorated. So in ichthyosis, and that remarkable and rare hide-bound* state of the fœtus in utero, in which the skin is nearly half an inch thick, cracking in the flexures of joints, &c. here and there symmetrically, and all the orifices projecting. In fact, there may be a proneness, from the state of the blood, nerves, and outward circumstances, to any affection of any one tissue, and the causes may or may not operate more or less universally, locally, or symmetrically.

A patient of our own, a lady of about fifty years of age, of very dark complexion, and rather marked hypertrophic tendencies, has had for years four whitish ovoid smooth warts (condylomatous) about the size of half a pea, but flatter, placed symmetrically on the eye-lids, each one being about a quarter of an inch from the cilia and the inner canthus. The diathesis determines the nature of disorders — the nature of parts fixes their site. That psoriasis affects the palms and soles, and lepra the knees and elbows, is a consequence of the affinity between matters in the blood and skin, and of course of the similarity in structure and uses, and even in the accidents of the parts. The same applies to the changes in pairs of arteries. Particular parts suffer most by use, and the repair is simple, hypertrophic, atheromatous, or earthy, according to the state of the individual affected.

These views seem almost sufficient to explain all appearances of symmetry. They seem to point to the original cause of the first ossification in each os calcis, and even the anterior com-

* Dr. Budd, we think, is mistaken in supposing the flexors of the hand not affected. They being the stronger mass, the hand drops and the fingers bend, though the paralysis may not be complete. The disease is universal; the excess and manifestation are partial.

* See Guy's Museum.

mencement of cartilages, and so on wherever we can discover humoral and physical causes acting and commingling in natural events or in morbid irritations.

The history of *depression* may both derive light, and supply some, by being connected with our present study.

The explanation of the state of collapse is not likely to be very simple, or easily propounded; yet a series of plain and certain considerations will materially assist us in attaining a right knowledge of it.

Hæmorrhage, long abstinence, fatigue, or fear, induce a syncope, in which the diminished fulness of the blood-vessels seems the chief defect, *e. g.* the blanched cheek. Antimonial or other poisons in the blood, though they do not at once affect the quantity, must act, at least in part, in a similar manner; the relaxation of vessels, and of the heart, and the enfeebling of all the muscles, which thus fail to support the venous circulation, being essential physical circumstances of the case. The pain of colic, squeezed testis, or a crushed foot, have all something in common with fear; for (through the nerves of volition) the muscular system is relaxed as well as the vascular. We may have tremor as well as paleness and a cold surface.

A temporary concussion of the brain produces analogous effects, although the severity of the collapse may be less. Vomiting and involuntary micturition are here but incidental effects—parts of idiosyncrasies, and not of any one kind or cause of collapse.

With a blow on the shin the breathing may be almost arrested, and fear, or the accident just mentioned, may produce syncope; but to all these circumstances we do not know that it is necessary to attach more of agency than belongs to the cerebral perception and the control of the muscular system.

As to the blow on the epigastrium;—we think it right to doubt whether the scrobiculus cordis really received the violence in all or in most of the related cases. Even prize-fighters know that a blow on the belly is quite precise enough for the truth; we say it is especially so if it is to be made a subject of philosophical inference.

In the next place it should be remembered, as of great importance, that we become clearly and forcibly impressed with the facts which prove the wonderful powers of endurance inherent in the really healthy body. We have adverted to cases of great lesion. Instances of slight shocks being injurious, and of greater shocks proving almost harmless, are well known. The following examples are of a different kind.

Extraordinary instances of human endurance, without latent physical consequences, are related by Dr. Schoepff, speaking of the inundation of Pesth, in 1838. "Thousands remained from twenty-four to forty-eight hours immersed in water, frequently without any shelter, and not seldom without nourishment." "The wife of a small tradesman, who but a few hours before had become the mother of a child, leapt out of bed on hearing the rush of water into the street, and having long toiled to save her little property, became at length immersed to her chin, when, securing a frenzied hold of the half-broken door, she clung to it till the dawn. She was rescued just twenty-eight hours after the birth of her child, and the infant found dead in her arms. Being removed to the protestant church, the unhappy mother spent four-and-twenty hours in constant movement and excitation, without changing her clothes or taking the slightest nourishment. On the following day she sank down exhausted, slept for six hours, and only complained, when she awoke, of excessive debility; she had no sensation of either hunger or thirst, and the food she swallowed seemed scarcely sufficient to sustain life. This was now the 17th of March; and by the 2d of April, though still weak and languid, she had recovered her health, and a week afterwards resumed her household duties. Physically, she had sustained no permanent injury; but she has never smiled since.

"On the same memorable 15th of March, the house of a labouring man suddenly gave way from roof to base, when he succeeded in clambering on a beam which had been only partially displaced. There he remained for fifty hours, without nourishment, or daring to yield to the desire to sleep which stole on him from the intensity of the cold. On being rescued, he was several times upset, for three days and nights suffered acute pain, and long resisted food; but he ultimately recovered, and now enjoys as perfect health as ever.

"An infant, eighteen months old, was rescued from its little bed, the water having risen to its chest, and did not suffer in the least from the exposure. Another had lain in its cot for two days and a night without nourishment; but was ultimately restored, and still lives. Many delicate women, long unable to walk, and some even to move, unassisted, far from suffering from the exertion to escape on the memorable night of the 15th, after a continued moral excitement of three days, recovered the health which had long been despaired of."

[To be continued.]

ON HERNIA,
OR
PROTRUSION OF THE INTERVERTEBRAL SUBSTANCE,
AS A CAUSE OF PARAPLEGIA.

To the Editor of the Medical Gazette.

SIR,

IN a clinical lecture on spinal affections, by Mr. C. Hawkins (MED. GAZ. May 17th, 1844), I observe the particulars of a case of paraplegia which seems not undeserving of a note.

It has occurred to me to find, in the spinal canal, small protrusions of the soft intervertebral substance, somewhat peduncular, and separating the bands of ligament between two vertebral bones. I have felt well assured as to the nature of these little ruptures, and have fairly been in anticipation of one day finding this state to be a cause of paraplegia. The "curious formation" referred to above (p. 212) seems to me, pretty certainly, of the kind I have described. A man, æt. 53, had paraplegia after a *strain*. There were found, "on the posterior surfaces of the intervertebral cartilages," between the neck and loins, "in two or three places, small, yellow, opaque, friable, bodies, in contact with, and apparently growing from, the intervertebral substance. They did not seem like scrofulous bodies, were very similar to intervertebral substance—a kind of hypertrophy of it, but yellower, firmer, and more brittle. The largest about the size of a pea." These little bodies may attain a certain size, but then I conceive they would only degenerate and waste, being merely old growths, out of place and out of use. They possibly depend on atrophy, or *rupture* of the confining ligaments. They shrink sadly when put up as preparations. Perhaps some of your readers may know something more of these bodies; I am not aware that they have been noticed by any writer. My colleague, Mr. John Hilton, who has devoted much time to the study of the spinal marrow, has, I think, seen bodies of the kind referred to.

Your obedient servant,
T. WILKINSON KING.

36, Bedford Square, June 3, 1844.

ON FUNGUS CEREBRI.*

BY JOHN ADAMS, ESQ.
Surgeon to the London Hospital.

(For the London Medical Gazette.)

I VENTURE to offer a few observations on the pathology of fungus cerebri, to which I attach some importance, and which, if correct, ought to lead to a very considerable modification in its treatment. I entertain a very strong objection to the term "hernia cerebri;" for although the protrusion is usually constituted at the beginning of true cerebral matter, nevertheless, as the disease advances, its character becomes changed, and it assimilates itself to ordinary fungus originating from any highly organised tissue. Where the mass is made up of brain mixed with coagulum, and is covered by the investing membranes, the arachnoid and pia mater, no exception can be taken to the employment of the term "hernia;" but I am confident that the general use of the word has an injurious tendency, as expressive of a false idea of the morbid anatomy of the disease in question, and as, therefore, to a certain extent, justifying a line of practice which is in a vast number of cases highly injurious.

As fungus cerebri cannot occur without the loss of a portion of the walls of the cranium, it is very common to set down the loss of support as a common cause of the disease. But the inference is not necessarily just; for I shall be enabled to prove, by reference to a considerable number of instances, that the exciting cause lies in the brain itself, and that the growth of the fungus depends on some special cause of irritation. The removal of a portion of bone by the trephine will unquestiona-

* Read before the Hunterian Society.

bly give rise to a tendency to protrusion of the brain, from the want of due mechanical support, and the afflux of blood to a part thus circumstanced; but, beyond this, it cannot rank as a cause of the disease,—unless it be possible, as some have supposed, and which I do not deny, that the edge of the opening in the bone becomes a source of irritation to the dura mater first, and subsequently to the brain itself.

Of the history and progress of the disease but little need be said; and I am not anxious to occupy the valuable time of the society by any lengthened remarks on this part of the subject. The disease occurs in the following manner. After the loss of a portion of the skull, if the dura mater is intact, this membrane is gradually forced up through the opening, and rises above the bone; it becomes remarkably tense, and takes on a bluish aspect from congestion of its vessels; small dark spots appear here and there, indicative of gangrene; and the gangrene extending, the membrane gives way, and small portions of brain gradually ooze through the openings of the dura mater; and these increasing in size, a protruded mass of cerebral substance fills up the opening. If the dura mater is lacerated at the time of the accident, the fungus makes its appearance with much greater rapidity; but after it has reached the level of the aperture, its progress is the same as in the first case. The shape of the tumor varies; it is in some cases oval, and covered at first by pia mater, which afterwards gives way; in others it resembles a simple vegetation; whilst in others, where it has existed longer, and has been subjected to pressure, it assumes a mushroom-like appearance. In a case mentioned by Mr. Stanley it attained the extent of 6½ inches in one, and 5½ in the other direction.

Of the character of the protruded mass, I may observe, it is brain-like, and is probably at first true cerebral matter, occasionally mixed with large clots of blood; but after a time its character changes, and it resembles to a certain extent ordinary vascular fungus, having still more or less of a cerebriform appearance. Let the finger be carried round the root of the tumor, and it will be found begirt by the dura mater; and the edge of the cranial aperture is frequently found dead.

As to the progress of the disease, I need only remark, that it may proceed in its growth to an almost unlimited extent; that sloughs occasionally occur, and being separated by the efforts of nature, the mass is eventually wholly got rid of, and healthy fleshy granulations appearing, cicatrization takes place; or the disease progresses to the destruction of the patient by exhaustion. A semi-purulent discharge oozes from the general surface of the tumor, and, at intervals, and frequently after an attack of coma, a free discharge of fluid occurs, and the symptoms are for a time relieved.

General symptoms.—After an apparently convalescent state, irritative fever comes on, occasionally succeeded by coma, hemiplegia, and muttering delirium; these are all preceded by great constitutional excitement; and, on the giving way of the dura mater, a remarkable amelioration of the symptoms happens. In other cases, where this membrane has been lacerated, no previous recognizable symptoms usher in the fungus, and the surgeon is much surprised at its appearance without any premonitory signs. The discharge continues to increase, the constitutional irritation is augmented, hectic supervenes, and the patient dies exhausted; or, other vital organs becoming the seat of inflammation, the patient dies from a cause apparently (though not really) unconnected with the original affection,—of which a beautiful illustration occurred recently at the London Hospital.

I shall proceed to point out what I conceive to be the pathology of the disease; and this will necessarily involve some remarks as to its morbid anatomy. To ascertain the true nature of the disease, a superficial, or even a complete, examination of the tumor itself is not always sufficient; this should be extended below the depth of the tumor, and the apparent seat of its connection with the brain; and in many cases there will be found at the root of the tumor, clots of blood, or softening of the subjacent brain, or the brain reduced to a semi-purulent pultaceous mass, or a distinct abscess of greater or less extent; and in the examination a foreign body is occasionally met with, or a spicula of bone is found imbedded in the brain. From the facts revealed to us by dissection,

we are able to arrive more closely at something like a knowledge of its pathology; but it must be apparent that, in most cases, this can only be ascertained after death: nevertheless, it is of the utmost importance that we should have correct notions on a subject of such magnitude. In assigning the removal of bone by the trephine as a common cause of fungus, we should remember that that operation is, in the present day, never undertaken but for the relief of symptoms of pressure or cerebral irritation, and therefore it is not unfair to presume that, in those cases of operation which are followed by fungus, the cause of the disease lies in the brain itself. But it must not be supposed that I deny the loss of bone itself as an occasional cause. Mr. Abernethy attributed the formation of fungus to a contusion of the brain, and the consequent effusion of blood into its substance. From numerous well-authenticated cases, however, it is clear that the disease frequently depends upon either a diseased condition of the brain itself, or the formation of an abscess at the base of the tumor, or some other special cause of irritation, the consequence of injury; for I cannot but rank abscess in this category, although it may be said that the accumulation of fluid in the skull is of itself sufficient to explain mechanically the escape of the cerebral substance.

From the perusal of a few cases to which I shall direct your attention, it will be seen that in the greater number the disease existed at the root of the fungus, and that an altered state of the brain, from suppuration, or some other lesion, must have preceded its formation, and becoming a source of irritation, thus have given rise to its formation; whilst, in others, we cannot fail to recognise a coagulum as its special cause. Mr. Stanley, in his valuable memoir on this subject, in the Medico-Chirurgical Transactions, states, in the post-mortem examination of the first case he alludes to: "The exposed surface of the brain from which the portion had been cut off exhibited a softened and broken-down texture, a state of disorganization, which extended deep into its substance: several small effusions of blood were met with between the membranes and in the substance of the brain." In the second case, by the same surgeon, a similar condition of brain existed at the base of the protruded part, which conveyed the idea of rottenness. In a case also quoted by Mr. Stanley, from Mr. Pearson, "an abscess was found in the anterior lobe of the right hemisphere, containing between two and three ounces of pus. The cavity extended from the anterior part of the corpus striatum to the base of the tumor."

Mr. Abernethy relates a case where the right hemisphere was reduced to a bloody pulp, so as to render it impossible to trace its organization. Mr. Hill also details an interesting case of fungus cerebri, accompanied by abscess, and states, "to prevent repetition of bad symptoms, I was obliged to shave away the tumor, and to push a lancet into its root, as often as the stupor and the symptoms showed that matter was lodged there, by which the patient was uniformly relieved:" the case eventually recovered. Scultetus also mentions a similar case. In the Lond. Med. Journ. vol. x., p. 277, two cases are given, in which repeated attempts were made to prevent the growth of the tumor, by pressure: both terminated unsuccessfully, one at the end of a month, and the other at the end of six months. In both cases there was a large cavity filled by a fluid, which had been formed by the accumulation of a fluid that could not escape on account of the aperture being closed by the fungus.

In the Lond. Med. and Surg. Journ. for 1831, a case is related by Dr. Tuthill, of fungus cerebri, succeeding a depressed compound fracture of the left parietal bone; the trephine was applied, and splinters of bone were removed from the brain. After a violent attack of inflammation, fungus made its appearance. It was excised by ligature, but it was reproduced. After the loss of a large quantity of cerebral substance, compression of the tumor was employed, which immediately produced paralysis of the opposite side of the body; this continued until the pressure was remitted. He became afterwards violently convulsed, and died about three weeks from the attack. On opening the skull, the brain on the injured side was softened, and infiltrated with pus, and an enormous abscess was found occupying the whole middle lobe, communicating with the ventricle, which was also filled with pus. In the

Journal de Médécine, a case is given, in which, beneath the hernia cerebri was contained a large oblong cavity of eight inches in extent, filled with a greenish pus. In a case which occurred some years since at the London Hospital, at the root of the fungus was an enormous abscess. In two recent cases, occurring under my own observation at the same institution, an abscess is found at the root of the fungus.

Not to multiply evidence on this subject, and without quoting the cases of fungus as the result of foreign bodies in the brain, as given by Mr. Mallett, in the Transactions of the Prov. Med. and Surg. Association, I think I have stated sufficient to prove that fungus is not always a disease depending so much upon the want of due support to the brain, but frequently on some special cause of irritation, as fungus is produced in other organized tissues. But what, it may be asked, is the inference from these facts? It amounts, in my opinion, to this, viz. that with such facts before our eyes, the persistence in an indiscriminate employment of compression in fungus cerebri cannot be justified, and that a prudent surgeon should weigh well all the symptoms of the case, before he makes up his mind to continue the use of pressure, if the case is proceeding, as is not uncommon, from bad to worse. But it may be asked, are there any symptoms by which we can distinguish this form of the disease from that of a simple character? I confess I have but little satisfactory to offer on this subject; but I must remark, that in the very last case which came under my observation, I ventured to predict the existence of abscess, from the occasional rigors which attacked the patient, and from the occasional escape of a large quantity of matter. (I may state that this patient died of pleuritic effusion and purulent depôts, so common in cases of suppuration at a part remote from the seat of the fatal attack.) If the idea of suppuration at the root of the fungus, should, from symptoms but slightly referred to, enter into our minds, and if our patient be suffering from the effects of the disease, what plan of treatment can be suggested? To this I would answer, that the cranial aperture should be enlarged, as has been suggested by Velpeau, and as is justified by the experiments of Flourens, that the root of the tumor should be explored by the grooved needle, and the propriety of at once laying open the abscess would readily be recognized. I confess I offer this suggestion with some diffidence, as it implies a degree of hazard which may seem presumptuous, but the success of the case mentioned by Mr. Hill appears in my mind to establish a precedent for a plan of treatment which certainly only the urgency of the symptoms can justify. I may mention one advantage likely to result from the use of the grooved needle, namely, the detection of a foreign body, as a spicula of bone, &c., the removal of which may at once arrest the further growth of the tumor.

31, New Broad Street, May 1844.

DIGITALIS IN MANIA.

To the Editor of the Medical Gazette.

Sir,

You were so kind as to publish, in the Number of your excellent periodical for last December, two cases of epilepsy complicated with mania, or maniacal delirium, corroborative, as I conceive, of an opinion stated in my work*, viz. that both analogy and some established facts go far to shew that digitalis, in large doses, exerts a very decided control over the latter as well as the former disease. Since then, having had an opportunity of making a further trial of the practice, and feeling that the subject is an interesting one, I beg now to submit the results. I would observe that the case of epilepsy was not one of the class which I consider curable by the "heroic" dose; and in giving the doses which I did, I had no expectation of curing the disease, but merely of moderating the attacks, and perhaps preventing their so frequent occurrence.—I remain,

Your obedient servant,
Edmund Sharkey, M.D.

1, Winchester Place, Jersey,
May 11th, 1844.

Case I.—Thomas Meddar, æt. 50, formerly addicted to drink, but for the two last years temperate; has suffered severe reverses of fortune, and has subsequently been subject to fits of

* "Inquiry into the Efficacy of Digitalis in Idiopathic Epilepsy."

maniacal excitement accompanied by severe head-ache.

He came under my care on the 9th of June, 1844, when he was in the following state. He had severe pain of the head, described as a darting pain, principally confined to the left temporal and parietal regions; his brow is knitted, and the expression of his eye stern; he has been freely purged for two days past, without any benefit. Being informed that, on similar occasions, he had been bled with advantage, I drew about a pint of blood, producing syncope. I applied a blister to his neck, and gave him Calomel and James's Powder, aa. gr. j. three times a day.

10th.—Blood drawn not indicative of inflammation; he spent, however, a better night; bowels confined.

Sumat. Infus. Sen. c. Antim. ad Eff. Blister to be dressed with Ung. Sabinæ.

12th.—Bowels open; inclined to be violent last night; complained much of pain of head, and does so still.

Sumat. h. s. Tr. Digital. ℥j.

13th.—A quiet night, but headache continues.

15th.—Is incoherent; talks and sings, but is not violent; blister discharges copiously; ptyalism; pulse 92, and soft.

16th.—Slept, and is rational; pulse 88.

Tartar Emetic Ointment to be rubbed on the neck.

23d.—Bowels regular; pulse as before; he has been in general quiet, but occasionally incoherent, and has complained much of his head; ptyalism continues.

Sumat. Extr. Belladon. gr. ss.; P. Jacobi, gr. j. ter in die.

Feb. 9th.—No important change since last report till last night, when he was very violent; he still continues very incoherent; bowels confined.

Sumat. statim Haust. ex Tinct. Digital. ℥j.; Mist. Camph. ℥j. Necnon Mist. Pergat.

10th.—*Has been quite tranquil, and slept.*

Rep. Haust. Tr. Digit. si opus.

12th.—Has been violent, and has taken the draught, but without the effect of producing sleep.

℞ [Tr. Digital. ℥ss.; M. Camphoræ, ℥ijss.; M. sumat. Cochl. ij. ampla p. r. n.

14th.—Having been sleepless and troublesome on the previous night, he yesterday took a dose of the digitalis mixture, which immediately tranquillized him, and he has slept almost ever since. Pulse 48.

15th.—Became again violent last night, complaining much of his head, but did not get a dose of the mixture. Bowels confined; pulse 52, intermitting; headache severe; appetite keen.

19th.—Quiet since; head better; pulse 48; pustular eruption on neck.

24th.—Still tranquil, and head much better; pulse 60.

March 6th.—Continues to improve; pulse 52, full, but intermittent.

7th.—Violent again last night; pulse 72; bowels confined.

13th.—Continues tolerably well; the pulse still presents decided intermission.

April 11th.—Still tranquil; head occasionally complained of; pulse has become normal in number and rhythm; bowels generally confined; is able to take exercise in the open air, to which, however, he is much disinclined; and he would, if allowed, remain constantly in bed. He is, on the whole, much improved.

In this case, where, from the obstinate persistence of severe local pain, in spite of active treatment, there is some ground for suspecting organic change within the head, we have seen very marked benefit derived from large doses of Tinct. Digitalis; and in a case which admitted only of palliation, it is no small satisfaction to have succeeded, as I certainly did several times, in reducing him from a state of violence dangerous to the safety of those about him, into one of perfect tranquillity, without the necessity of employing any restraint. It may be important to mention, that there is, in his family, a tendency to this form of disease.

Case II.—The next case is brought forward for the purpose of shewing that the peculiar state of the nervous system which exists in epilepsy seems to confer a tolerance of this powerful sedative which we should have little anticipated. It is one in which the digitalis was more freely given than in the former, though it was characterized by a remarkable weakness and irregularity of the pulse, which was of unequal strength in the two arms, being sometimes scarcely distinguishable in the right. It was that of a widow, aged

29, the mother of four children. She states that she became epileptic at the age of 9 or 10, in consequence of a fright, but was cured in about a year after the first invasion. She states that, eleven years ago, grief brought on a return of the disease, by which she has been ever since afflicted, especially at her menstrual periods. Her general health is good. Instead of the fully formed paroxysm, she sometimes gets fits of temporary fatuity. She was treated, in the first instance, with purgatives, large doses of Sulph. Zinci, Nitr. Argenti, Sulph. Quin., Turpentine, and Ammoniuret of Copper, without much benefit; she took, subsequently, Tinct. Digitalis in large doses, the general effects of which it is now my chief object to detail.

The first dose (3ij.) was given on the 27th of last September: the report on the 28th was as follows. Has not vomited, but is weak and vertiginous; pulse 80, *not more irregular than before.*

Oct. 1st.—Pulse 52—54.

12th.—A fit last night; pulse 100, not intermittent.

Sumat Tinct. Digital. 3iij.

14th.—A fit; has been for some time subject to vomiting of a fluid like coffee-grounds.

Nov. 1st.—Was yesterday fatuous, and a similar draught of the tincture was given, after which she *slept well.* Is up to-day, and feels quite well, and has improved in look. Pulse 72, with marked intermission.

20th.—Had a fit on the 17th; coffee-grounds vomiting continues; pulse 56, regular.

Dec. 11th.—Is now taking Ol. Terebinth, 3j. ter in die. Vomiting has ceased.

Jan. 27th.—Is fatuous.

Sumat. Tinc. Digital. 3j.

On the 9th and 10th Feb. had fits, followed by costive bowels, quick pulse, and heat of skin. On the 10th took a draught with—

Ol. Tereb. Ol. Ric. aa 3j., followed at bed-time by Tinct. Digital. 3ij.

Bowels were freely opened, and she *slept better* than for three previous nights, which had been nearly sleepless; countenance improved; and pulse 62, but slightly irregular.

On 13th another fit. Draught of Tinc. Digit. was repeated.

14th.—Slept, and is well to-day.

17th.—Took Tinc. Digit. 3ij.

20th.—Repet. Tinc. Digit. 3ij.

23d.—Pulse intermittent; stomach irritable; head giddy.

24th.—Pulse 64, very intermittent.

March 16th.—A slight fit; took, after it, Tinc. Digit. 3ij.

18th.—Pulse 52.

19th.—A fit; face swollen and red; tongue white; pulse 100.

Sumat. Tinc. Digital. 3ij.

20th.—A good night's rest; is less stupid; pulse 64, intermittent.

22d.—Vertigo; pulse highly intermittent.

25th.—Pulse 48, more intermittent; vertigo increased.

It would be useless to pursue this case further, as the fits still occur; but I think I have sufficiently shewn how freely digitalis may be administered, not only without injury, but with positive benefit, in allaying nervous excitement and procuring sound sleep, where opiates appeared inadmissible. For other cases of these diseases thus treated, and further information on the free use of this remedy, I beg to refer to Case 9 of my work; also to Dr. Hallaran's and Mr. Knight's Treatises on Insanity; also to Pereira's Materia Medica, art. "Digitalis."

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

On Dysmenorrhœa, and other Uterine Affections, in connection with Derangement of the Assimilating Functions. By EDWARD RIGBY, M.D. &c. &c. Pp. xii. and 140. Renshaw. 1844.

THIS work is avowedly a superstructure upon that "On Stomach and Urinary Diseases," by Dr. Prout; of whose views on the influence of an excess or mal-assimilation of the albuminous and gelatinous principles in the production of the lithic, rheumatic, and gouty diatheses, the author is a thorough-going partizan, and to the existence of which he is disposed to attribute nearly all the maladies that assail us from infancy to age—grinding of the teeth, clenching of the hands, mollities ossium, tabes mesenterica, and other glandular diseases of the scrofulous

constitution, phthisis pulmonalis, and organic diseases generally,—all are owing to an acid state of the fluids, produced by an imperfectly assimilated chyle, or its conversion into the comparatively insoluble pseudo-albuminous matter of struma, arrested in some part of the circulation, instead of being thrown out by the kidney and other emunctories of the body.

One really feels at a loss how to take down matter of this description at the present day. Have we fallen back upon the times of Paracelsus and Van Helmont? or has Dr. Rigby caught a Tartar in these chemical theories of disease? Is he, instead of leading, himself led, and that into a maze or quagmire where he is engulphed and lost? We cannot tell; but seriously opine, that Sir Topas must be brought to Malvolio tricked out in yellow stockings, and cross gartered—in garments that do not belong to him. But "revenons à nos moutons."

The book consists of two parts. The first discusses Assimilation and its derangements; the second is entitled Uterine Affections. Seven cases follow, along with three of which tabular analyses of the urine are given; and the whole concludes with "a few simple directions, by which a practitioner, without much previous knowledge of the subject, may soon learn to observe and appreciate the more important phenomena which the urine presents in the diseases to which I have been alluding." The first part is merely introductory to the second, where the reader is informed that Dr. Rigby's object is not to point out new remedies for the treatment, but to illustrate the connection which exists between the rheumatic and gouty diatheses and certain uterine affections; and likewise to call attention to the circumstance that the local symptoms are little more than part of a general diathesis, without an effectual impression upon which but little relief can be expected.

When mal-assimilation, particularly of the albuminous and gelatinous principles, attempts to localize itself on the uterine system, Dr. Rigby proposes, in default of a better term, to call it "rheumatic gouty affection of the uterus." The symptoms of this *new* disease enumerated are those of—will the reader believe it?—*dyspepsia in general!* God help the poor stomach! it has a deal to answer for in these days! —dyspepsia in general, attended with a more or less marked state of congestion of one or other of the pelvic viscera at the menstrual periods, or the half-way times between them. This congestion is described as at first transitory, but soon acquiring a more permanent character, until at length a state of subacute or chronic inflammation is established, which terminates in structural mischief.—For a full and particular account of the fashionable hypothesis involved in which assumption, vide Dr. Wilson Philip's book "On the Tendency of certain Derangements of the Digestive Function to end in Organic Disease of the Instrument by which it is performed." In many instances the disease seems chiefly confined to the vagina and rectum, producing atonic leucorrhœa, or hæmorrhoidal congestion, without the uterus appearing to suffer much during the menstrual periods; but in other and more acute forms, dysmenorrhœa, usually accompanied with fibrinous exudation, is present, especially where the general diathesis has been led to fasten itself upon, or to show itself in, the uterine system, by exposure to cold during a menstrual period, or by an abortion at an early date. Dr. Rigby says that he is unable to state with certainty the precise circumstance on which the formation and discharge of fibrinous exudations depend. "Neither the severity of the attack, nor the peculiar type of the accompanying symptoms, nor the habit of the individual herself, seems to stand in any relation or connection with the appearance of these discharges of fibrinous matter. If there be any fact which seems to be common to all the cases of dysmenorrhœa which have been attended with exudation, it is the co-existence of some local inflammatory action in a neighbouring organ. In some it has been the kidney; in others (and, on the whole, more frequently) the ovary: which may easily be presumed, from its close connection with the uterus, and from the generally-received opinion of its being essential to the function of menstruation. In others the os and cervix of the uterus have been the seat of inflammation."

Now all this appears to us, to say the least of it, grossly inconsistent with the announcements put forth in our author's

title-page, and reiterated in his preface. *Occasional* connection between dysmenorrhœa and rheumatic affection, and its treatment by means of guaiacum, colchicum, and the like remedies, were long ago dwelt upon by Dr. Locock, in the Cyclopædia of Practical Medicine. Our author's adoption of that view, with the additional idea that rheumatism played a more important part in uterine pathology than was generally imagined, was proclaimed in his Treatise on Midwifery. Surely Dr. Rigby is not prepared to contend that he has added to the common stock of knowledge, and proved the frequent concomitance of uterine affection and rheumatism, by publishing seven cases of their simultaneous occurrence! We engage to supply him with twice as many from our note-book, where nothing of the kind could either be traced or suspected. We are, indeed, at a loss to conceive any legitimate professional object for which this work could have been produced. It seems a mere excrescence from, a parasite upon, the dazzling chemico-pathological speculations of the modern chemical pathologists, especially of Dr. Prout and Liebig—we cannot dine without finding Liebig in our dish now!—and the practical application by Dr. Todd of the modern and fashionable version of the humoral pathology to the explanation of the erratic phenomena observed in gout and rheumatism.

We are sorry to find the whole of Dr. Rigby's publication written in a style and manner so much below the level of the general acquirements of the profession, that it is only adapted to convey information to the frequenters of the outer court of the temple of science. We have even grave misgivings of the book having been written for the profession at all; a suspicion which, did it acquire shape, we should make the ground of a severe visitation upon Dr. Rigby, especially in connection with such a subject. Books upon female complaints ought to be sacred to professional eyes, and written up to so high a mark that no other than professional readers could peruse them with understanding. There is nothing, in our mind, between Aristotle's Masterpiece and the most serious inquiry into the mysteries of generation and its accompanying phenomena, as matter of the deepest philosophical import.

Contributions to the Diagnosis of Empyema. By R. L. MacDonnell, M.R.C.S.I. &c. &c.

The subject of empyema has lately had a large share of notice in our pages, as our readers are aware; first, in our abstracts of Dr. H. Roe and Dr. T. Thompson's papers on Paracentesis Thoracis, read at the Medical and Chirurgical Society, and of the interesting discussion that followed; and, second, in our analysis of the last published Part of the Guy's Hospital Reports. To put our readers *au niveau* on this important subject, we feel bound to refer them back to the March number of the Dublin Journal of Medical Science, where they will find a great deal of new and most interesting information on certain rare forms of empyema; forms, to wit, in which the matter made its way to the surface in the vicinity of the heart, and in the guise of *pulsating tumors* that simulated aneurism in a very remarkable manner. Two original cases of this kind are given, and a third is quoted. The writer makes some very pertinent remarks upon the purulent expectoration that frequently occurs along with empyema. In his first case, for instance, the patient in the course of one day expectorated a whole pint of greenish pus, at which time the diarrhœa under which she laboured received a notable check; but the post-mortem examination showed the bronchial membrane in a perfectly healthy condition; and no trace of communication between the sac of the empyema and a bronchial tube could be discovered. There were tubercles in the lungs, indeed, but these were all in a crude and unsoftened state. The author is inclined to view the discharge of pus by the bronchial membrane and bowels, in such cases, as vicarious of the purulent secretion into the pleural sac. "An evacuation of pus, by absorption, secretion, or some other process, is effected, which is attended with a diminution in the empyema."

The author has further some excellent observations on the "condition of the sound lung in empyema," which is somewhat liable to be affected with proper bronchitis, for which no satisfactory cause can be assigned save the additional duty that is imposed on it in consequence of the useless state of the other lungs. We are not, however, to

be over solicitous about the *mere physical signs of bronchitis* unaccompanied by general symptoms—a certain and often unavoidable degree of congestion that is not dangerous in itself, will cause these physical signs; a little attention, however, enables us to distinguish this state from acute bronchitis or pneumonia.

We find still further, in perusing this important paper of Mr. MacDonnell, some very curious and original remarks on the condition of the liver in empyema. It is generally held that the only way in which this great viscus is implicated in empyema is by being mechanically depressed when the purulent collection is in the right side of the thorax. Mr. MacDonnell has shown that the same enlargement or depression of the liver often occurs equally when the effusion is on the left, and that it is due in fact to a congested state of the organ, similar to that which occurs along with morbus cordis and diseases of the lungs attended with imperfect aeration of the blood. On the whole, we regard this contribution of Mr. MacDonnell to the pathology of empyema as one of the most original of any that have ever been made on that important and dangerous disease.

MEDICAL GAZETTE.

Friday, June 7, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

EXCESSIVE DIVISION OF LABOUR IN THE PRACTICE OF MEDICINE.

WE are very much disposed ourselves to view the healing art as one and indivisible. We have no doubt as to the propriety of there being but one course of study for all who devote themselves to the medical profession. Having gone through this, it would afterwards be competent for each man to choose the walk for which he felt inclination or natural aptitude. He would practise medicine, or surgery, or midwifery, did he chance to settle himself either in a large town or in a populous country; did his stars cast him on a village, or a more thinly-peopled district, or did he seek refuge in the army or the navy, he must hold himself armed at every point—ready to trepan a skull or take off an arm, to treat an ague and to help a woman in her confinement, as the case might be; and such is the close connection between all the parts of medical science, that he who has been well grounded, and devotes himself zealously to his profession, may perform each and all of these offices with perfect propriety, and even advantage to the patient. We have seen our army and navy surgeons, when cast loose by peace, or disgusted with service, settling themselves indifferently as pure physicians, as pure surgeons, as accoucheurs, and in still larger numbers betaking themselves to general practice, and acquiring a reputation in each and all of the three grand divisions of the profession.

In large cities and populous neighbourhoods, we are nevertheless favourable to a division of labour to the extent of physic, surgery, and obstetrics; but it is obvious that, conceding so much, we run great risk of being required to give more: a certain amount of division of labour, it is said, is allowed to be good; a greater amount of subdivision must be still better. This we believe to be a grievous and most pernicious error; but it is one that is spreading, and that under the countenance of interested individuals; and, from the gross ignorance of the public upon matters medical, is likely to extend still farther. We have no longer physicians, surgeons, accoucheurs, but we have physic split into various sections, and have mad-doctors, lung-doctors, stomach-doctors, skin-doctors, &c. Surgeons, again, we find in such divisions as lithotomists, oculists, aurists, orthopedists, &c. Obstetricians preserve their integrity as yet; but there will probably be a split among

them by and by, if the prevailing taste continue.

Our forefathers instituted general hospitals for the relief of the sick of all kinds and denominations; they did not imagine that because a man's eyes were the part of his body which was suffering, any other than the attendant in ordinary was required to set them right;—they never dreamt of ophthalmic surgeons, any more than they thought of ophthalmic hospitals. Mr. Cheselden was the most distinguished surgeon of his day, and cut for the stone, and couched for the cataract, and did every thing that an accomplished surgeon could be asked to do, and should be ready to do. In the present day, we see the profession cut up into shreds and patches,—we think with very questionable benefit to the progress of true medical science, or to the public. The most ignorant and conceited men we encounter in the profession are those who limit their practice to a particular subject or branch; and it is quite certain that these are never the men who push forward the car of science; on the contrary, they are generally the last to yield to improvement.

It is wonderful, however, to what an extent the public may be won by taking them on a crotchet or a whim; and how much they are disposed to listen to nostrum-venders and curers of particular maladies and infirmities. The more ignorant the man, too, the more is he fitted to succeed on this tack: "What a very ignorant man Mr. —— —— is," said a lady friend of ours one day, speaking to us of her professional attendant in ordinary; "I do not know that I ever met with so ill informed a man; but I suppose he knows his profession all the better for that." This is the secret. The world see a man doing impossibilities upon the fiddle, or the flute, or the bassoon; or they see a juggler bringing the whole of Covent Garden from a crownless hat; and straightway the world judge of us as medical men by the standard of fiddlers and mountebanks: if we are informed beyond the pale of our profession, we cannot have given our undivided attention to that: we can do something more than balance a straw upon our nose, and then we are mistrusted; if we have no accomplishment on earth,—if we are as ignorant as Mr. —— ——,—we are straightway esteemed to be very Solomons on the one thing needful, and taken into the heart's most intimate confidence.

We were led into some part of the preceding reflections by having a letter put into our hands yesterday, headed "Testimonial to Mr. Frederick Salmon." On going further we found these words:—

"Sir,—I have the pleasure of forwarding you, at the request of Capt. Sir Edward Parry, (Chairman of the Provisional Committee), the annexed copy of a requisition to the Right Honourable the Lord Mayor, by which you will perceive his Lordship has appointed One o'Clock on Saturday, the 8th of June, for the Meeting, at the Hall of Commerce, Threadneedle Street, when the Committee *urgently* solicit the honour of your attendance.

"Major General Sir James Law Lushington, K.C.B. has kindly intimated his intention of taking the Chair at Half-past One o'Clock *precisely*.

"I have the honour to be, sir,

"Your obedient servant,

"Thomas Howell, Jun.

"Honorary Secretary, *pro tem.*"

Still farther, we find a formal requisition to the Rt. Hon. Wm. Magnay, Lord Mayor of the City of London, requesting him as "President to the Infirmary for Fistula and other Diseases of the Rectum, to convene a special meeting for the purpose of taking into consideration the most suitable means of testifying the high sense entertained of the manner in which Mr. Frederick Salmon, the Founder and Surgeon of the Charity, has gratuitously performed the arduous and responsible

duties of his office, and to mark the estimation in which his private worth and the services he has rendered to science (!!!) is held." The whole signed by hard upon two hundred names of respectable gentlemen—and, will it be believed? by no fewer than twelve gentlewomen. Think of twelve English women requesting the Lord Mayor of the City of London to convene a meeting for the purpose of testifying their high sense of Mr. Frederick Salmon's merits as the founder and surgeon to the "Infirmary for the Relief of Fistula and other Diseases of the *Rectum!!!*" There are some among the gentlemen subscribers, too, from whom we should have augured and expected better things than that they should appear lending themselves to any quackery or nastiness. What have Capt. Sir Edward Parry, or Charles Dickens, or Thomas Bell, F.R.S. to do here? If Dickens means to get a character or so for his next new work from the Governors, male and female, of the "Infirmary for the Relief of Fistula and other Diseases of the Rectum," or if he is studying the interesting traits in the features and feats of the founder, we will excuse him; if not, if he have no such purpose, we recommend him, with his brother governors and governesses, to find out some one who will "cut him for the simples," as well as for fistula or the piles.

But seriously this is a great evil, and makes all honest and plain medical men blush for the profession to which they belong. There is something disgusting, and in the last degree indelicate, in making parade of such matters of privacy as diseases of the *rectum*.

The subject has long been known to be a popular one, however, and any man with sufficient bluntness of the finer senses to take it up was pretty sure of finding it answer his purpose. There was an old apothecary at Bath who had a very large practice in this line, and whose room used to be seen set round with patients *impaled in a small way!* We shall not venture on the trisyllable which we once heard Sir E. Home use in connection with this old apothecary's practice, or on the disyllable which he applied to those who subjected themselves to it—faugh! we are so disgusted with the panorama of indelicacy and imbecility which this requisition brings up before our eyes, that we fly from it, and the actors in it, with loathing.

REWARD OF SCIENTIFIC MEN IN THIS COUNTRY.

We honour Sir Robert Peel for the handsome way in which he spoke of men of science generally, whilst alluding particularly to the most distinguished comparative anatomist and palæontologist of our country, or of Europe—Mr. Owen. Whatever salary Mr. Owen had from the College of Surgeons, he was still worthy of consideration by the Minister with a fund at his disposal for the reward of literary and scientific desert. When we see by the statement, which we presume must have been furnished by the College of Surgeons, that Mr. Owen's emoluments from his office—and much arduous duty he does for the money—do not exceed £550 per annum, we see that the Premier did well and wisely in awarding Mr. Owen an additional £200 per annum for his life. Had Mr. Owen been born in France, instead of England, and laboured as he has done, he would himself have been minister of the crown, and filled a place of honour and emolument that would have made him independent of any such consideration as he has been fortunate enough to receive. But being born in England, he is nobody, save in his privacy, and had he "bestowed his talents on a distillery," he would have made more money than ever he will make by science.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, June 6th, 1844.

THE PRESIDENT IN THE CHAIR.

Case of Dissecting Aneurism of the Aorta, Innominata, and Right Carotid Arteries, causing suppression of urine, and white softening of the right hemisphere of the brain. By R. B. TODD, M.D. F.R.S. &c.

THE patient, a stout plethoric man, æt. 37, was suddenly seized, while dining at a friend's house, at Norwood, in Surrey, with syncope, from which he soon recovered. He was taken to the house of another friend in the neighbourhood, and Mr. Street attended him. His symptoms at this time were, violent pain in the loins, down the course of the ureters, thighs, and abdomen, with some tympany and swelling of that region, nausea, and scanty urine. Notwithstanding depletion, local and general, purging and diuretics, the kidneys ceased to act, and other signs shewed themselves. He became paralytic of the left side; the pulse of the right side was distinctly smaller and weaker than that of the left: there was bellows sound in the course of the aorta and innominata, and the breathing in the right lung was less audible than that of the left. There was also great drowsiness and sluggishness, indicating oppressed brain.

About the fifth or sixth day the secretion of urine returned, but the cerebral symptoms shewed but trifling signs of amendment. The pupils, which had before been unequal, became equal, and some power returned to the paralysed side; but the pulse began to falter, and signs of an internal hæmorrhage manifested themselves, and on the eleventh day from his seizure he expired quite suddenly.

A copious effusion of blood was found in the pericardium; this had escaped through a little fissure in the outer coat of the aorta, which formed the external ovule of a recently formed aneurismal sac. This sac communicated with the aorta through a transverse rent in its inner and middle coats, which originated in an ulcerated atheromatous spot. The blood which thus escaped from the artery made a new channel for itself along the aorta, and also along the innominata and right carotid arteries, by splitting the middle tunic of those vessels into two laminæ. The separation took place in the carotid to some distance up the artery, and was then stopped, the consequence of which was the plugging up of that artery, and the cessation of the circulation in it.

The right hemisphere of the brain was exsangueous, and all that part of it which is above the fissure of Sylvius (which is supplied with blood by the middle cerebral artery) exhibited numerous patches of softening, without discolouration, affecting the white matter, as well as the grey substance, of many of the convolutions. This softening Dr. Todd attributed to the stoppage of the circulation in the right carotid artery, the vertebral not being able to render its full share of blood, owing to the diminished calibre of the innominata and subclavian. The kidneys were in the second stage of granular disease. The temporary cessation of the action of these organs was doubtless due to a temporary impediment to the full flow of blood to them. The paralysis and the somnolency were clearly to be attributed to the physical alteration in the right hemisphere of the brain.

The case was attended by Mr. Street, of Norwood, and by Dr. Todd, and was seen once by Dr. Watson.

Dr. Williams commenced the discussion by inquiring whether the region of the back had been auscultated, as he should have expected any murmur that existed to have been heard loudest in that situation.

Dr. Todd, in reply, stated that he had done so, but found no audible murmur in that situation.

Mr. Solly inquired whether the contracted state of the right pupil, which had been observed in the commencement, continued unchanged till the death of the patient.

The Secretary reread a portion of the paper, to show that the state of the pupils by and by became uniform.

Mr. Phillips had witnessed three cases of dissecting aneurism of the aorta, but they had occurred at a more advanced period of life than the one just related to the society. The patients were all between 60 and 70. He detailed one in a bed-ridden female.

He dissented from the explanation of Dr. Todd, that the state of the brain was produced by the obstruction to the cerebral circulation, inasmuch as pathologists were not generally agreed whether softening was the result of stoppage of the circulation or of some inflammatory process. The state of the kidneys might account for the cerebral symptoms.

Dr. Williams observed on the much greater size which aneurisms possessed during life, when they were distended by the force of the heart, than would be imagined from the state of the parts inspected after death. This was of importance in estimating the size of aneurismal tumors during life, by the aid of auscultation and percussion. He alluded chiefly to thoracic aneurisms, but had observed the same circumstance in abdominal aneurisms. He detailed a case where the sign usually furnished by the state of the pulse was wanting, but in which the anomaly was explained, after death, by a portion of the coats of the

vessel having become implicated, so as to form a valve of the artery, and thereby annihilate the circulation through it. He thought the explanation of the head symptoms advanced by Dr. Todd essentially correct, and dissented from that of Mr. Phillips, inasmuch as ischuria was attended with symptoms of general oppression of the brain, and not with those of paralysis.

Mr. Snow observed that the unnatural channel mentioned in the descending aorta might have terminated a pouch, and hence there would be no circulation through it, and no sound heard in the back. Dr. Todd considered this view as very probable; but as the aorta had been divided before the termination of the new channel had been completely traced, he could not positively affirm that it ended in a shut sac, although it very probably did so.

The President, in reference to the important influence of the circulation in the carotid over the functions of the brain, alluded to a case in which Mr. Vincent tied that vessel: the man was immediately seized with paralysis. In Mr. Abernethy's first case of ligature of the common carotid, inflammation (qy. softening) of one of the cerebral hemispheres was likewise found.

Mr. Lloyd's experience led him to consider softening of the brain as the product of inflammation rather than of interruption to the circulation, and in this he thought he was supported by the treatment which he had found most successful—local depletion, with general stimulants and nutritious diet.

Mr. Lloyd again rose, and, in commenting on the practice of depletion, observed that in his younger days a patient was seized with symptoms of paralysis, for which he bled to some extent. The paralytic symptoms increased, and he was greatly blamed by the very practitioners who, at a subsequent stage, employed still larger depletion, with a successful termination of the case.

Dr. Willis remarked on the interesting nature of the case, and the perfectly satisfactory manner in which, in his opinion, all the symptoms were accounted for by the post-mortem appearances. He related a case which illustrated the influence of defective circulation on the cerebral functions in a very remarkable way. A lady was considered as being what was called nervous; she spoke little, was out of spirits, shunned the light, and ceased to take interest in her needlework, &c. The hesitation in this patient's speech, and the general symptoms, led him to look more seriously at its probable issue than had yet been done, and to diagnosticate incipient organic disease of the brain. No kind of treatment did any good. On visiting the patient one morning, about four miles from town, he found the face drawn to the right side. There was little pulse, but he thought it fair to try the effect of a cautious bleeding; the arm was tied up, and a small orifice made in the vein; before four ounces had flowed, the left arm fell, upon which the further loss of blood was immediately arrested. Matters went on from bad to worse; the patient became completely hemiplegic, and about six weeks afterwards she was seized with convulsions on the right side, and died comatose. On opening the head nearly the whole of the middle lobe of the brain on the right side was found pulpy and soft, of a yellow colour in the middle of the softened mass, of a dirty white in the rest; and the middle artery of the brain, which nourished this hemisphere, just where it passed up over the front of the corpus callosum, was found obstructed by a firm coagulum, evidently of old formation. To the formation of the obstruction in this vessel he felt disposed to ascribe the whole of the mischief which had occurred in the case.

Dr. Mayo approved the practice which Dr. Willis had followed; it was judicious, it was cautiously undertaken; and unquestionably the fatal result had had nothing to do with it. He was of opinion, however, that in all probability a clot had existed in the softened portion of brain as the first step in the mischief, and that the coagulum found plugging the vessel was an after-effect. Softening of the brain almost always began around clots of effused blood.

Dr. Kingston thought, from the care and industry with which Dr. Abercrombie had collected materials for elucidating the pathology of softening of the brain, we were bound to adopt his conclusion that the white softening unattended with discolouration depended on some interruption to the circulation of that part.

A Case of Scirrhus of the Thyroid Gland. By R. W. Brown, Esq., Surgeon to the Bath United Hospital. [Communicated by Sir B. C. Brodie, Bart.]

This case was considered by the author to be interesting in connection with the paper communicated to the Society by Mr. Cæsar Hawkins, on Carcinoma of the Thyroid Gland. The patient, aged 60, began, about Christmas 1842, to have pain in the larynx, accompanied by hoarseness; and his voice gradually became feeble and stridulous, so that he could scarcely speak above a whisper. A hard swelling soon presented itself in the situation of the left lobe of the thyroid gland, and which could be traced in the direction of the œsophagus. The integument in this part of the neck became thickly studded with hard tubercles of a cancerous character. The patient at length had great difficulty of swallowing, which increased, and he died, after much suffering, in June

1843. On the post-mortem examination, the left lobe of the thyroid gland was found to be the principal seat of disease. It was enlarged, and converted into a mass of carcinomatous substance, white, hard as cartilage, and with some gritty particles dispersed through it. The lymphatic glands on both sides were also converted into the same morbid structure, and compressed the œsophagus. Tumors of the same kind were found in other parts of the body, particularly in the lungs and the liver.

Case of Necrosis of the Lower Jaw recovered from without Deformity. By William Sharp, F.R.S. F.G.S. F.R.A.S., Senior Surgeon to the Bradford Infirmary.

The patient, a female, aged 20, was first seen by the author in the beginning of Sept. 1842, six months after the disease began, with symptoms of necrosis of the lower jaw. He extracted one of the teeth, and found a small fungous growth attached to its fang. On the 13th December, he lay the sinuses communicating between the diseased bone and the skin into one, and slightly enlarged the opening; he then drew out with the forceps the dead portion of the lower jaw, which was found to consist of about two-thirds of the entire bone, and it contained several of the alveolar processes. The author was gratified, on looking into the patient's mouth, to find that, with the exception of the tooth which he had extracted, the whole set of excellent teeth were perfectly fast, and in their proper places. The portion of bone which had been removed was exhibited to the Society.

Mr. Lloyd's experience had informed him that cases of extensive exfoliation of the jaw where the teeth were preserved were not at all uncommon. He had seen many such.

The President owned that he never had seen any case of the kind.

Before adjourning the Society, he informed them that Mr. Snow wished to exhibit, and was ready to explain to the members, an instrument which he had invented for the removal of fluid from the pleural cavity without the admission of air. The apparatus consisted of a trochar and canula much longer than that usually employed for paracentesis abdominis. In the middle of the canula a stop-cock is placed, which is to be turned to cut off the admission of the external air, before the trochar, which is accurately fitted to the tube, is completely withdrawn. The shoulder of the canula is constructed for adaptation to Reid's syringe, by which the fluid is to be removed.

THE SEDATIVE POWERS OF ERGOT.

By Q. Gibbon, M.D., of Salem, N. J.

I am induced to offer for your consideration the following remarks upon a singular property possessed by the ergot—that of diminishing the frequency of the pulse—by a desire to see the truth of the subjoined facts either verified or disproved by further experiment.

Having occasion during the summer of 1841 to prescribe the ergot in a case of menorrhagia, I observed a manifest decrease in the frequency of the patient's pulse. Surprised at a result which, from my previous knowledge of the properties of the remedy, I was unprepared to anticipate, I was induced to test by further experiment its reality.

With this view I gave on the 19th of June, 1841, sixteen grains of pulverized ergot in decoction to a healthy man 20 years of age, whose pulse at the time of exhibition was 64. He had maintained the sitting posture an hour previously, and continued it during the experiment.

Results of Experiment.—20 minutes after exhibition, pulse 58, moderately full; 30 minutes after exhibition, pulse 48, small; 45 minutes after exhibition, pulse 48; 60 minutes after exhibition, pulse 52; 75 minutes after exhibition, pulse 55. The experiment was here concluded, and the patient permitted to walk about—6 hours after exhibition, during which he took his dinner, his pulse was at 60.

2d Experiment, June 20th.—The same individual, and sitting as before, took a scruple of ergot in well-boiled decoction of two waters, pulse 60; 15 minutes after exhibition, pulse unchanged; 25 minutes after exhibition, pulse 52, full and tense; 35 minutes after exhibition, pulse 51; 45 minutes after exhibition, pulse 51; one hour after exhibition, pulse 54; one hour and a half after exhibition, pulse 56.

3d Experiment, July 3d.—Gave the same with pulse at 64, a decoction of one drachm of ergot; 20 minutes after exhibition, pulse 52; 30 minutes after exhibition, pulse 46, slight nausea; 40 minutes after exhibition, pulse 45, nausea increased; 5 minutes after vomiting occurred, after which pulse rose to 60; one hour after exhibition, pulse stood at 46, with slight nausea; 2 hours after exhibition, pulse 50, no nausea.

4th Experiment, Aug. 7th, 1842.—Took myself 10 grains of a watery extract, prepared by boiling ℥j. of ergot in a pint of water, and evaporating to a consistency proper for pills. Pulse, at the time of exhibition, 70; 30 minutes after exhibition, pulse 60; one hour after exhibition, still 60; one hour and a half after exhibition, pulse 57; three hours after exhibition, pulse 60.

5th Experiment, July 29th, 1843.—Took 30 drops of the oil of ergot, prepared by digesting the powder in ether and evaporating the liquor. Pulse at exhibition, 70; 30 minutes after exhibition, pulse 64; one hour after exhibition, pulse 60; two hours

after exhibition, pulse 56; three hours after exhibition, pulse still 56.

The only work in which I recollect to have seen this sedative property of ergot noticed is that of Collins's Midwifery, page 156, in which it is mentioned as being very striking in almost every case where administered during labour. I have frequently watched its operation upon the female system under similar circumstances, but have never witnessed such well-marked effects as are mentioned by that author. A decrease of four or five pulsations in the minute is as much as I have been able to discover. I have obtained the most satisfactory results from the operation of the agent upon the unimpregnated female and upon male subjects. It is but reasonable to suppose that the excitement of labour would materially interfere with the exercise of this peculiar sedative property.—*American Journal of Medical Sciences*, Jan. 1844.

CASE OF FATAL HEMORRHAGE

FROM PERFORATION OF THE ARCH OF THE AORTA, BY FALSE TEETH IMPACTED IN THE ŒSOPHAGUS.

By James Duncan, M.D.
Surgeon to the Royal Infirmary of Edinburgh.

A young man, aged 22, a dentist's workman, having lost his two front teeth by an accident, supplied the deficiency by a couple of artificial teeth secured on a frame in the usual way. He sometimes slept with these teeth in his mouth. On the 28th of February last they were missing in the morning, and the young man complaining of pain and difficulty in swallowing, he applied to Mr. Syme, who with a probang detected a foreign body in the œsophagus, much beyond the reach of the ordinary forceps used for extracting foreign bodies from the gullet. The patient was removed to the Infirmary, and attempts were made to entangle the foreign body in a skein of thread connected with the probang, but in vain. By and by the pain subsided, and the patient left the hospital in the evening of the 9th day, March 8th. Next morning Dr. Duncan was hastily summoned to see him at home. In rising from bed, and crossing the room, he had become suddenly faint and giddy, and had vomited a mouthful of blood. He was immediately removed to bed, and complained of a feeling of great weakness, and of some slight difficulty in breathing. His face was pale, and the skin rather cold, but the pulse was of moderately good strength. From his description of what had taken place, I was led to believe that the foreign body had been dislodged from its situation, and that it was possibly within reach of the forceps, with which I had provided myself. I accordingly requested him to sit up by the side of his bed, to enable me to make the necessary examination. This he did with ease, and without much assistance, expressing great anxiety to have something done to relieve him. The act of depressing the tongue, to enable me to introduce the forceps, produced vomiting, and a mouthful of dark fetid blood was discharged. This was immediately followed by another but much larger quantity of fluid of the same description, perhaps about eight or ten ounces, and the false teeth were heard to rattle against the vessel into which it was received. The patient was immediately aware of this, and his friends were overjoyed at what had taken place. Another mouthful of the same fluid was then ejected: an interval of a few seconds elapsed, and then a mouthful of bright arterial blood was discharged; a second, and a third followed, the lips became livid, the pulse at the wrist ceased, the patient gave one or two convulsive sobs, and expired.

An inspection of the body was readily obtained from the friends. The pharynx, the œsophagus, and stomach, along with the carotids, subclavians, and arch of the aorta, were removed entire, a ligature having been previously thrown around the duodenum to prevent the escape of the blood which had accumulated in the stomach, and so enable us to form an estimate of the quantity which had been lost. The œsophagus, stomach, and duodenum, were found distended with pretty bright arterial blood. The quantity could not be measured; but in the opinion of those present at the examination there could not have been less than eight or ten pounds. The pharynx and œsophagus were laid open by an incision posteriorly, carried as low as the cardiac orifice of the stomach. About $4\frac{1}{2}$ inches from the rima glottidis there was an ulcerated perforation of the anterior part of the œsophagus, of about $\frac{3}{4}$ths of an inch in length and three lines in breadth, passing obliquely upwards from the right to the left side. The edges of the perforation were rounded, and there was considerable surrounding injection of the mucous membrane. By this opening the probe could be readily passed into the aorta; but the latter vessel was not laid open at the time, it being thought better to immerse it for a day or two in spirits before doing so. On laying open the aorta subsequently, a perforation of about the size of a large crowquill was found about half an inch below the origin of the left subclavian artery. The opening was irregular in form, the edges everted, and at the lower part there was a pretty firm adherent coagulum. There was little or no vascular injection around this opening. The artery was otherwise perfectly healthy.—*The Northern Journal of Medicine*, No. 1, May, 1844.

ON THE

ELEPHANTIASIS GRÆCORUM ENDEMIC IN CERTAIN PARTS OF NORWAY.

By D. C. Danielssen, M.D.*

Greek leprosy, once so common among the Israelites, and which in the middle ages was endemic over the whole of Europe, and appears to have been particularly common in Great Britain,† prevails at this moment in Norway, probably with as much severity as ever. In a population of 200,000, 1200 are actually lepers.

Greek leprosy presents itself especially along that portion of the western coast of Norway which is comprised between the 60th and 70th degrees of North latitude, among the poorer classes of the community; it is hereditary, but does not attack every member of the family when one is invaded; it is not contagious, but its severity appears to increase with the number of generations which have suffered from it. Its invasion is determined by accidental external circumstances. No age gives immunity; that form which presents the tuberculous character is evolved in the fœtus, and has been seen in a new-born infant. It may arise in a healthy individual, born of healthy parents, living under the influence of the conditions which favour its evolution; these conditions being especially damp and dirty clothes, small and ill ventilated houses, exposure to the thick fogs of the country, indifferent food, and the other accompaniments of poverty.

Greek elephantiasis, or leprosy, presents itself under two forms in Norway—El. tuberculosa, and El. anæsthetica, but the two forms occur together, and also complicate other diseases of the skin, such as eczema, prurigo, lichen, &c.

In the bodies of those who fall victims to the disease—and its tendency is invariably towards a fatal termination—hard, yellowish, and granulated masses are found in the substance of the dermis, and in the subjacent cellular tissue, which destroy the structure of these textures. The same alteration occurs in the greater number of organs—in the parietes of the subcutaneous veins, in the coats of the eye, the larynx, trachea and bronchi, pleura, liver, spleen, intestinal canal from top to bottom, and the uterus: strangely enough, the substance of the lungs is generally exempt. In a few cases of El. anæsthetica, the skin in several places was found very much atrophied, the subcutaneous cellular tissue and the muscles almost entirely destroyed, and the tendons in some places retracted.

The therapeutical means hitherto opposed to this frightful disease have had little or no influence—it is commonly and inevitably fatal.

* Comptes Rendus, Avril 1, 1844.

† See the interesting papers of Dr. Simpson, of Edinburgh, on the subject, in the Edin. Med. and Surg. Journal.—Ed. Gaz.

APOTHECARIES' HALL.

Gentlemen who have obtained certificates, May 30.—C. Hill, Ireland.—T. Blatherwick, Litchfield, Hants.—J. C. Croft, Sherborne, Dorset.—E. O. Golding, Ditton, Kent.—H. B. Pickess, Hadleigh, Suffolk. — C. Robinson, Bradford, Wilts. — L. White, Breckon, Somerset. — C. A. Wakefield, Ludlow, Salop.—H. Wright, East Bridgeford, Notts.

TO CORRESPONDENTS.

Dr. Buchanan's interesting papers have been received, and will afford us matter for comment immediately.

Mr. Paterson will find his case in the present number.

We have the honour to acknowledge the receipt of a packet from the Director-General of the Army Medical Department, containing two papers: one on Tubercular or Greek Leprosy, now prevailing in a district of Lower Canada, by A. S. Skene, Esq., 52d Foot; the other a case of Diseased Testicle, with observations, by A. S. Sunter, M.A., 7th Fusiliers.

MORTALITY of the METROPOLIS.

Deaths from all causes registered in the week ending Saturday, May 25.

Dropsy, Cancer, Diseases of Uncertain Seat	91
Diseases of the Brain, Nerves, and Senses	153
Diseases of Lungs and Organs of Respiration	239
Diseases of the Heart and Blood-vessels	32
Diseases of Stomach, Organs of Digestion, &c.	69
Diseases of the Kidneys, &c.	4
Childbed	4
Paramenia	0
Ovarian Dropsy	0
Disease of Uterus, &c.	1
Arthritis	0
Rheumatism	1
Diseases of Joints, &c.	3
Carbuncle	0
Phlegmon	1
Ulcer	0
Fistula	0
Diseases of Skin, &c.	1
Old Age or Natural Decay	54
Deaths by Violence, Privation, &c.	15
Small Pox	36
Measles	23
Scarlatina	49
Hooping Cough	27
Croup	15
Thrush	0
Diarrhœa	8
Dysentery	0
Cholera	0
Influenza	4
Ague	1
Remittent Fever	1
Typhus	32
Erysipelas	4
Syphilis	6
Hydrophobia	0
Causes not specified	2
Deaths from all Causes	876

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JUNE 14, 1844.

ON TUBERCULAR LEPROSY.

By A. S. Skene,
52d Foot.

COMMUNICATED

By Sir James M'Grigor,
Director-General Army Medical Department.

(For the Medical Gazette.)

Having been appointed, by the Lieut.-Governor of New Brunswick, one of a commission, consisting of Dr. Toldervy, of Fredericton, Dr. Key, of Chatham, Dr. Gordon, of Bathurst, and the Rev. Mr. La France, P.P. of Tracadie, to investigate the condition of Tracadie and the adjoining districts, with reference to a malignant disease reported to prevail therein; I have to state that, having, in terms of the above-mentioned commission, proceeded to the districts in question, the disease alluded to proved to be the TUBERCULAR LEPROSY, or Elephantiasis of the Greeks.

On comparing the symptoms of the cases submitted to us, with those of the lepra tuberculosa, in Bateman, Simpson, Copland, and others, I satisfied myself that this disease was the tubercular leprosy, and that their descriptions of it left little to be desired.

Deeming myself peculiarly fortunate in having thus had an opportunity of personally observing a disease so rare, and so little known to British authors, and one which presents numerous points for inquiry to the philosophical mind, I have thought it best to confine my remarks—

First, to the proof that the cases observed were really the lepra tuberculosa of authors.

Second, to the particular points still at issue in regard to the history of this remarkable malady.

In regard to the first point, I shall quote the definition of this disease of Dr. Copland, p. 701 of his valuable Medical Dictionary.

"1. Definition.—Dusky-red or livid tubercles, of various sizes, on the face, ears, and extremities; thickened or rugous state of the skin, diminution of its sensibility, and falling off of the hair, except that of the scalp; hoarse, nasal, or lost voice; ozæena; ulcerations of the surface, and extreme fœtor."

This definition will, I think, be amply borne out by the following cases, selected from nineteen which came under my own observation.

1. Frances Savoy*, aged 46, a married woman, with a family of six children.

When I saw this patient, on the 28th of March last, she presented the following appearances:—

The whole surface of the skin seemed as if smeared over with oil. The whole of the face was studded with tubercles, varying in size from that of a pepper-corn to that of a bean; the larger ones about the lower part of the face, where they became confluent, and caused much enlargement of the lips, and the cheeks to be pendulous. This enlarged mass, particularly under the chin, is divided by numerous rugæ, more especially by a transverse one, larger than the others, giving (or causing) the appearance of what is commonly called "double chin," in a very remarkable manner. Nose very much enlarged,—alæ pendulous, with ulceration commencing at the lower part, its mucous membrane excessively thickened; the eyebrows are devoid of hair, and the cilia have almost entirely disappeared. The whole of the inside of the mouth and fauces is studded with tubercles of various sizes, confluent about the velum and uvula. Voice husky and nasal. Breath intolerably fœtid. Many tubercles, of various sizes, were seen on the upper and lower extremities. Respiration short, and she coughs a good deal. Sleeps well, and eats well, and suffers little or no pain. Dis-

* This case was seen in the Neguac Settlement.

ease made its first appearance four and a half years ago. Her husband sleeps with her every night, and is in perfect health, but one of her sons, a boy eight years of age, is affected with this disease.

2. Tranquil Robichaeux*, a boy aged 15. On the 29th of March, 1844, he presented the following appearances :—

The whole of the face much swelled, and the surface of the skin seemed as if smeared over with oil—studded with tubercles, very large, about the lower part of the cheeks and chin. Tip of the nose pendulous, and abraded, occupied by a livid, shining tubercle. Lips enormously enlarged, and full of tubercles on the inner sides, which have the appearance of small cicatrices on their summits. Tongue much thickened, and protruding between the lips, with numerous fissures crossing each other in different directions, and full of tubercles. Palate and whole of the fauces thickly covered with tubercles, small, and confluent. Uvula and tonsils extensively tubercular; in fact, one mass of disease extending down into the pharynx. Constant cough. Breath very offensive; voice a mere whisper; and when raised by extraordinary exertion, not like that of a human being. Hair from eyebrows and eyelids entirely gone. Extensive ulceration on the calf of the left leg, and also on the right instep, with incipient ulceration about the roots of the nails. Large oblong tumor in either groin, presenting somewhat the appearance of femoral hernia. Four large but superficial ulcers on the left thigh, with thickened and indurated edges: trunk of the body free from tubercles.

Sensibility of all the diseased parts very much impaired, if, indeed, not entirely destroyed, inasmuch as I pinched them as hard as I possibly could, without inducing any pain.

Sleeps indifferently—appetite good, and digestive organs apparently unimpaired. The disease commenced six years ago; his uncle died of this disease about a month ago, in, I was told, a shocking state.

3. Peter Savoy†, aged 33, married; his wife and four children are all apparently healthy.

Appearances presented by this patient on the 3d of April, 1844.

Countenance of a dirty, livid complexion, mottled and shining, as if smeared over with oil. Tubercles of various sizes studded over the forehead—smaller on the upper part of right cheek.

Nose much swollen, with an enlarged state of the left ala more particularly, which is of a livid colour, possessing a very glossy surface. A large tubercle arising from the septum, filling up the left nostril; mucous membrane much thickened. Upper lip full of large tubercles, which are superficial, and give the mouth a corrugated appearance. Eyebrows much enlarged, and overhanging, devoid of hair; and that of the cilia almost wanting. Conjunctiva slightly injected. Skin of eyelids, and that covering the malar bones, of a yellowish, tawny, or copper colour. Palate of a darkish yellow, and in some places, of a livid colour. Breath extremely fœtid. Voice hoarse and husky. Ears tubercular and pendulous.

Chest and arms covered with livid blotches. Tubercles thickly studded over the outer and posterior surfaces of the fore arms. One or two on the right have suppurated, and are now covered with dark scabs, with white scaly edges. Hands dry and shrivelled, with skin on the palms horny, and cracked. Nails tolerably healthy. Lower extremities (thighs and legs) covered with the same livid blotches as those described on the arms. Inguinal glands of both sides enlarged. State of the feet same as that of the hands.

He states that seven or eight years ago he fell out of health, and became affected with apathy, debility, drowsiness, and slight occasional irritation in the skin. These symptoms continued for two or three years, when blotches showed themselves, of a darkish yellow, or tawny colour, on the face, chest, and extremities, and these (blotches) in the course of some months became of a dusky red or livid colour. About a year afterwards, tubercles (or lumps, as he described them) made their appearance. The first of these developed itself over the left eye, and they have gradually extended themselves as has been described.

4. Alexander Stewart*, aged 49, unmarried, presented the following appearances on the 3d of April, 1844 :—

Complexion dirty and unhealthy, and the surface of the skin seems as if smeared over with oil.

Face mottled, studded with flattened tubercles, none very superficial; the whole of the integuments thickened, with uneven surface.

Eyebrows full and drooping, perfectly devoid of hair; that also of the cilia almost gone. Lips thickened, and their inside covered with small tubercles with white summits.

The whole of the throat and palate covered with confluent tubercles; superficial ulceration extending down the pharynx as far as can be seen; two or three tubercles on the back part of the tongue, which is much thickened; breath very fœtid; voice a mere whisper, with laborious breathing; occa-

* This is one of the cases in the Tracadie district.

† This case we saw in the Tabisiutac settlement.

* Eighteen miles up the north-west branch of the Miramichi river.

sional cough, with a bloody mucous expectoration.

His beard is so thin, that he can go three weeks without shaving, and suffers no inconvenience therefrom. The whole surface is covered with a dark reddish eruption, more particularly on the upper part of the chest and extremities: (here the peculiar oily appearance is very remarkable).

Skin of hands much shrivelled and cracked. Several detached tubercles on the calves of the legs and insteps, accompanied with great want of muscular power. Toes swollen, and of a glossy livid colour; nails furfuraceous, and almost gone. The sensibility of the surface is very materially diminished—pinching the integuments of the face and extremities causing little or no pain: to use his own expression, "My flesh seems as if it were dead."

Appetite good, but passes very restless nights, and is altogether in a debilitated condition.

He states that about eight years ago a rash appeared on his body, which was considered by his friends to be itch: this rash was confined to the extremities. In the course of some four or five months this rash in a degree disappeared, and was followed by swelling of the whole of the integuments; some of the glands in his neck also became enlarged. By and by numerous tubercles (or lumps, as he called them) presented themselves upon his face, and have since gradually spread.

I trust that the foregoing extracts from our case-book will satisfy you that the disease which we saw is identical with the tubercular leprosy which prevailed throughout Europe during the middle ages, and which has more recently been seen in Iceland, the Farroe Isles, Shetland, Holstein, Madeira, the Crimea, Africa, Ceylon, (vide Staff-Surgeon Kinnis's Paper, Edinburgh Med. and Surg. Journal, No. 52,) and the East and West Indies.

The new locality for this disease forms a part of the province of New Brunswick. It is chiefly confined to the east side of the land lying between the Bay of Chaleur and the estuary of the Miramichi River, and more particularly to the settlements on the Neguac and Tracadie Rivers.

We could not draw any *positive* conclusion as to the original appearance of the disease in this quarter, but, from statements submitted to us by some of the oldest settlers, we learned that the first case occurred about the year 1817, in the person of a woman named Ursale Landré, one of a family of nineteen children.

The father of this family is supposed to have been an Acadian, and married a woman of Carracat of the name of Mary Bredeau. Ursale Landré married a man of Tracadie, of the name of Joseph Benoit, about the year 1798 or 1799.

Ursale and her husband came to reside in Tracadie immediately after their marriage, and had five children—three daughters, and two sons. Ursale is known to have been a perfectly healthy woman until after the birth of her youngest child, which took place in 1809. She continued in delicate health for six or eight years; and it was observed about this period that spots or blotches developed themselves on the face, extending over the upper part of the trunk and extremities.

After a lapse of time, distinct lumps (as they described them) appeared on the face, and on the inside of the lips, and in the throat. She lost the hair of her eyebrows and eyelashes; the voice became hoarse and husky; and, in short, she appears to have exhibited all the characteristic symptoms of the disease, and died in 1829.

Joseph Benoit, her husband, took the disease three or four years before her death, and sank under it in 1831.

From these cases the disease would appear to have gradually extended itself; and although, ten or eleven years ago, only two cases existed, we found, independent of seven deaths* which have occurred, thirteen confirmed cases in Neguac, one confirmed case in Tabisiutac, and one (Alexander Stewart) eighteen miles up the north-west branch of the Miramichi River, making in all nineteen.

The points still at issue, and which appear to be of interest connected with this disease, relate to,—1st, its peculiar nature; 2d, the pathology; 3d, the causes; 4th, the diagnosis; 5th, the prognosis; 6th, the treatment. The remarks which I am enabled to make on these subjects are far from being complete, but being the results of individual observation and reflection, may be taken for what they are worth.

With regard to the first point, I am led to think that the primary cause of all the symptoms detailed in the foregoing cases, and also of the others submitted to our inspection, was a morbid principle, *sui generis*, known only by its effects, which most probably resides in the blood—the common pabulum of the organs, being generated therein by a virus, which, when once introduced, reproduces itself, and, by degrees, transforms the normal elements of blood into new compounds, which contaminate the whole system, and control the innervation, and all other vital influences: the most pro-

* These deaths are exclusive of five others, who are known to have contracted the disease in Tracadie, but died elsewhere. Dr. Key saw these cases, and asserts most positively that they died of this disease.

minent symptoms being a perversion of nutrition, together with the secretion of new products in the tissues of organs.

The determination of the specific chemical changes, and the attendant anatomical lesions, must necessarily be left to the medical officer who will be appointed to superintend the infected districts. It is also desirable that experiments be instituted upon the lower animals, as to whether the morbid poison can be introduced into the system through wounded surfaces, or by absorption from the stomach. As bearing upon this point I may state, that while at Tracadie I was told that a case had been produced by sanious matter, which had escaped from the coffin of a person deceased of this malady, and which had come into contact with the shoulder of one of the bearers.

2d. As to the morbid anatomy.—Having had no opportunity of making post-mortem examinations, I refrain from making any remarks upon this subject, further than to refer you,—first, to my general views in regard to the peculiar nature of the disease; and second, to what may be gathered from the cases which have been detailed.

3d. In regard to the causes of tubercular leprosy, I have already said that the disease, in my opinion, depends upon the introduction into the system of a specific morbid poison; and the question comes to be,—first, how this poison originates? and second, as to how it is communicated? As has been stated, there are no means of deciding upon the mode in which Ursule Landré first contracted the disease; but no doubt rests on my mind that it has since been from her communicated by hereditary taint, and by contagion. From genealogical inquiries I was induced to draw the first of these conclusions; and the other persons affected being in the habit of associating with the diseased families, may serve to justify me in regard to the second point. After all, perhaps, hereditary transmission may be only a peculiar modification of contagion. At all events, the one is not opposed to the other: and I do not think that the disease, which is at present local or endemic, is likely ever to become epidemic; for, as appears by the report of the Guadaloupe Commission, in 1748, "the contagion is not so active nor poisonous as that of the plague, small-pox, nor even as the ringworm, itch, scald, and other cutaneous disorders; for, if that were ever the case, the American colonies would be utterly destroyed."

The facts stated above will also show that all those brought into direct contact with the disease, and all those immediately connected with the sources of the malady, do not necessarily become affected with it; so that I am forced to conclude that, in the cases which became affected, there existed either some intrinsic constitutional peculiarity, which predisposed them to the disease; or, that they were exposed to certain extrinsic causes, which rendered them peculiarly liable to its attack.

I do not pretend to decide upon the intrinsic causes, but those which authors suggest are,—depressing mental affections, age, and sex.

In regard to the first of these heads I have to say that our examination afforded us no evidence worthy of special notice; and concerning the second I have only to remark, that the ages of the patients we saw varied from eight to forty-nine years; and that, whereas Mr. Stewart's cases, quoted by Dr. Copland (page 706 of his Medical Dictionary), go to prove that women are less liable to this malady than men, our observations show that the male were to the female cases in the proportion of twelve to seven; so that on the whole, perhaps, I am justified in saying, that both sexes are equally susceptible of the affection*.

The extrinsic causes cited by authors are,—indigence, including filth, exposure to extreme temperatures, scanty or unwholesome food, together with miasmata generated in the soil or subsoil.

I have no doubt that indigence, filth, and scanty diet, predispose to contagious diseases of every description, and whether in this instance unsound wheat, rye, potatoes, or fish, are to be blamed, I regret to say that my opportunities did not allow me to determine; however, there is strong reason to believe that the fish, which forms the principal article of diet of the people in the infected districts, is often in a state of decomposition before being salted: but supposing, as is asserted, that in imperfectly cured fish there is a special organic poison, the operation of boiling ought most probably to render it innocuous.

With reference to the miasmata and the

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* I may here give the names of the different lepers whom we saw, beginning with the

MALES.

Thomas Comeau.....	*æt.*	33,	at Tracadie.
Oliver Robicheaux....	„	25,	„
Tranquil Robicheaux.	„	15,	„
Frances Robicheaux..	„	12,	„
Israel Robicheaux....	„	21,	„
Fabien Gotreau	„	25,	„
Louis Doiron	„	40,	„
Alman Savoy	„	21,	„
Edward Savoy.....	„	12,	„
Peter Savoy.....	„	33,	at Tabisintar.
Barnaby Savoy	„	8,	at Neguac.
Alexander Stewart....	„	49,	N.W. Branch Miramichi River.

FEMALES.

Charlotte Benoit.....	„	14,	at Tracadie.
Margaret Robicheaux.	„	30,	„
Mary Clair Basque....	„	29,	„
Juliana Ferguson	„	33,	„
Frances Savoy.....	„	46,	at Neguac.
Mary Savoy.....	„	33,	„
Mary Rose	„	13,	„

geological structure of the districts in question, I have reason to believe that there is nothing particular.

4th. *The diagnosis.*—On referring again to Dr. Copland's definition of this disease, it will be seen, that in the advanced stages the symptoms are so well marked that little difficulty can occur in detecting it; while in the earlier, I can only say, that the peculiar tawny discoloration of the palate and fauces appears to me, in the absence of tubercles, characteristic of the malady. It cannot be confounded with scrofula, inasmuch as this latter symptom is never present; nor with scurvy, inasmuch as there is no tendency to local hæmorrhage; nor with syphilis, which is originally a local affection; nor with dry gangrene, which chiefly affects the larger joints. (*Vide* Dr. Charlton Wollaston's cases, recorded in the Phil. Trans., abridged, v. xi. p. 626.)

5th. *The prognosis.*—I am again obliged to say, that while our opportunities of observation do not allow me to bring forward any thing definite upon this head, and while ancient authors uniformly return the disease as incurable, the view which I have taken of the malady leads me to hope that the assimilation of the virus may probably be accelerated and accomplished before the constitution has given way; that is, before organs essential to life have become irremediably obstructed; the external evidence of this fatal state being intimately cannected with the development of tubercles in the superficial tissues.

6th. *The treatment.*—This is either active, palliative, sanatory, or preventive. With regard to the two first, the commission did not feel authorised to offer any observations to the government of New Brunswick; while in respect of the two latter, they unanimously recommended the erection of a lazaretto, strict seclusion of the lepers in this establishment, and legislative sanction for the removal of those patients who, while medical authorities were adjusting their differences, might introduce the seeds of a most loathsome malady into one of the most populous districts (Chatham) of this flourishing colony.

Before concluding this paper, I would beg particularly to refer you to "An Account of a Visitation of the Leprous Persons in the Isle of Guadaloupe, by John Andrew Peyssonel, M.D. F.R.S. translated from the French, dated August 10th, 1748," reported in the Phil. Trans., abridged, v. xi. p. 74.

I have the honour to be, sir,
Your most obedient humble servant,
A. H. Skene, A.S. 5 Q.L.I.

[We beg to refer our readers to our last number for a brief notice of the Greek leprosy as it occurs in Norway, by Dr. Danielssen. It is interesting to observe this formidable disease showing itself upon the opposite shores of the Atlantic, in nearly similar geographical positions, and probably under very similar circumstances in regard to mode of life, food, &c.—Ed.]

ON

FRACTURES OF THE VERTEBRÆ.

By W. Lyon,
Lecturer on Surgery, and lately one of the Surgeons of the Glasgow Royal Infirmary.

(For the Medical Gazette.)

Case I.—*Fracture of vertebræ—great displacement—Complete division of spinal cord—Death, eight weeks after injury.*

Matthew M'Lusky, æt. 24, blacksmith; admitted April 8th, 1842. Yesterday, at 5 afternoon, when running rapidly down a steep hill, he stumbled, and was thrown violently forward, pitching upon his head, and turning "heels over head." Complains of pain between shoulders, extending into chest, and somewhat impeding respiration. Lower extremities completely paralysed and insensible, as are likewise all the parts below the umbilicus, above which slight sensibility exists and becomes more perfect upwards. Power and sensation of upper extremities nearly, if not altogether, perfect. Respiration performed almost entirely by diaphragm; voice weak and hollow; inability to cough loudly. Spinous processes of the three superior dorsal vertebræ are moveable, and crepitate on being pressed: *scarcely any appearance of displacement:* bladder not emptied, nor bowels moved, since accident.

He was ordered to have the urine drawn off two or three times daily; to be placed in the position in which he felt easiest; and to have an opiate every night.

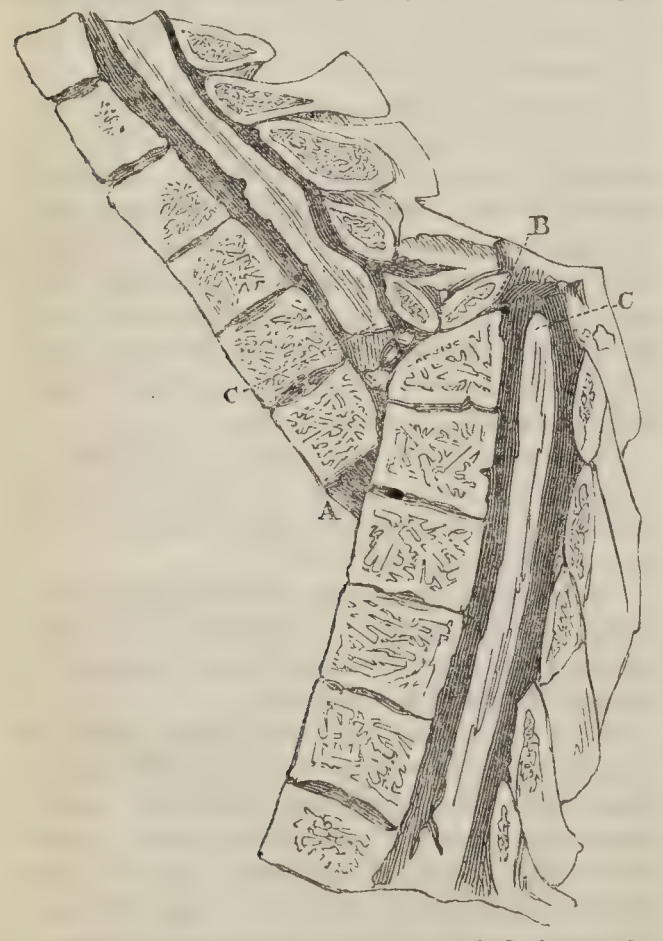
In a day or two after admission there was much pain and some swelling in site of injury; pulse 108, and full, abdomen tympanitic, urine ammoniacal, and bowels confined. A few leeches were several times applied over the pained part of back, and it was occasionally fomented. Paralysed parts were freely rubbed three times a day, and air-pillows placed below him where the pressure of body was greatest and most frequent: he was dissuaded from moving more than was absolutely necessary, and bowels were relaxed by small doses Sp. Terebinth. and Ol. Ricini. On the 11th, pulse was 84, and soft; tumefaction diminished: he felt comfortable, and his appetite was good. Neither at this nor any other time could motion be excited, or sensibility elicited in the paralysed parts by pricking, tickling, or the like.

He continued in nearly the same state until the 9th of May, when he had a rigor, after which the pulse became frequent, and the appetite diminished. By the 29th of May, although he had used the air pillows, lain for some time on a hydrostatic bed, and been regularly rubbed, large bed-sores had formed over the trochanters and sacrum. He now became feeble, had frequent rigors and profuse perspirations, was much annoyed by cough, and, from paralysis of most of the voluntary respiratory muscles, was unable to expectorate the copious mucus collected in bronchi, and thereby suffered much distress from difficulty of respiration. The debility rapidly increased, the large sores were extending; pulse was 120, and small; cough, and difficulty in breathing, were very great, emaciation extreme, and perspiration profuse. He had whiskey, wine, ether, lac ammoniacî, &c., with very little advantage, and died on 17th of June.

Inspection.—The injured part of the spine, and portions above and below it, were removed and divided by the saw from behind forwards into two equal portions.

The spinous and oblique processes of several of the superior dorsal vertebræ had

Fig. I.—*Section of Spine from M'Lusky.*



A. Broken body of vertebra, carried forwards and downwards.
B. Spinous process fractured, and tilted upwards.
C. C. Extremities of divided cord.

been fractured, lay confusedly together, and were connected by dense tissue, approaching in some points to cartilage. The body of the third dorsal vertebra had been fractured obliquely forwards and downwards, its spinous process broken, one part of its body carried forwards for nearly two inches, and likewise downwards for about the same distance, so that the extremities of the fractured spine overlapped each other for an inch and half; the posterior aspect of the upper portion resting on the anterior of the lower, and the broken spinous process of the upper portion supported on the fractured body of the lower one, as shewn in Fig. I. The fractured portions were held together firmly in front, and at the sides, by condensation and agglutination of the surrounding tissues.

The separation of the fractured surfaces being so great, the spinal cord was of course completely divided, its extremities separated for more than an inch, and covered by membrane; they were injected, soft, and the membranes red and thickened. Further examination was not permitted, so that the condition of the aorta and other parts in front of the spine, which must have been much changed by the osseous displacement, could not be ascertained.

Case II.—*Fracture of spine — Paraplegia —Partial recovery — Death, eight weeks after injury—Morbid appearances.*

Francis M'Gill, aged 27, collier, admitted October 3d, 1842. Five days ago was crushed between two railway waggons, the lower part of back being chiefly injured. Injury was immediately followed by complete loss of sensation and motion below the part which suffered violence, and likewise by inability to pass urine or retain stools, all which conditions continue. A considerable projection of spine is observed about situation of tenth dorsal vertebra, where he complains of pain, especially on pressure, but *no crepitation* can be perceived. Has been bled from the arm, and leeched over seat of injury.

In this instance, the pulse, for a considerable number of days after admission, did not rise above 84; and by the 9th, six days after admission, had fallen to 60. The pain at injured part was not at any time very severe, and was relieved by leeches and fomentations. The most troublesome symptoms were cough and copious mucous expectoration. As usual in such cases, tympanites early shewed itself; and, although every care was taken, by occasional change of posture, the use of air pillows, and friction with the hand three times a day, by the 6th, three days after he entered the hospital, and eight from reception of the injury, vesications had formed on those parts of the limbs exposed to pressure.

Oct. 9th.—Cough still more annoying; injured part feels easy; but, now that swelling is removed, there appears unequivocal prominence of several of the spinous processes; pulse 72; abdomen still tympanitic,

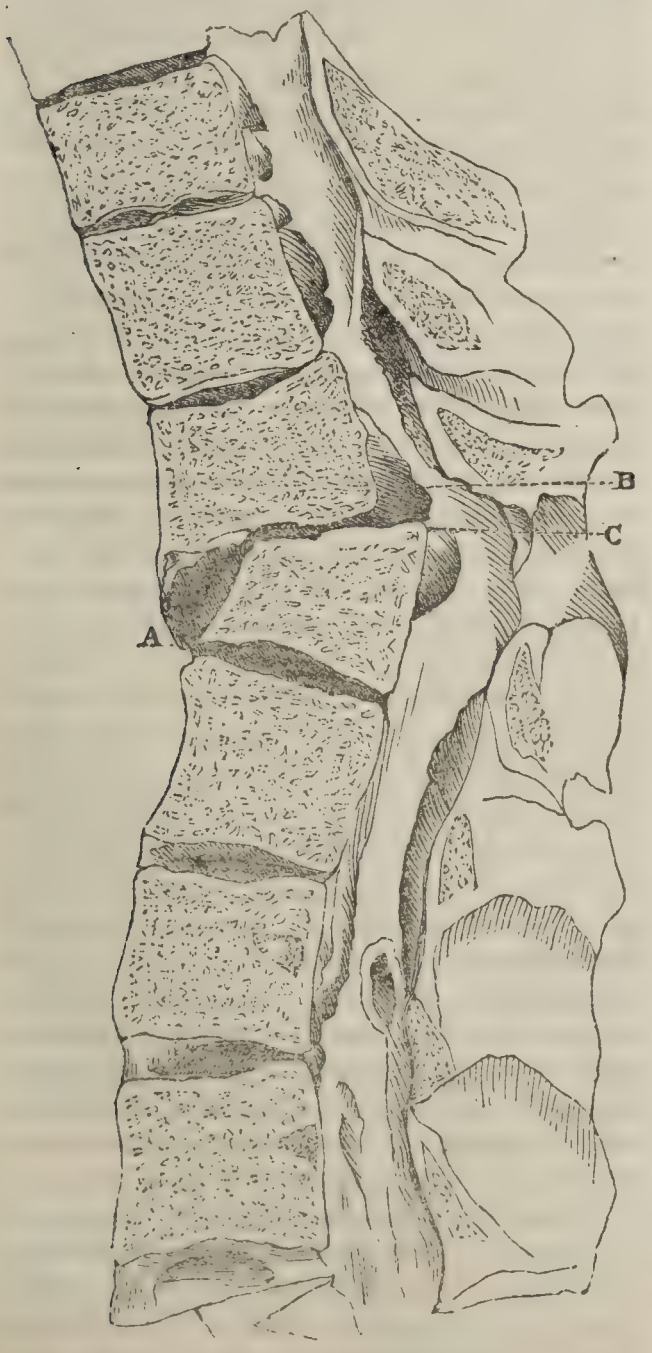
but relieved by action of turpentine and oil; otherwise unchanged.

About this time he was placed upon a hydrostatic bed. Upon the 30th, general health is reported tolerably good, and it is stated that, last night, he had a feeling of heat in limbs, and to-day can slightly move toes of right foot. The power of motion did not increase; but, on the 2d of November, when the toes were pricked, although he did not feel the pricking, strong starting of the feet was occasioned.

He continued in the same condition for several days, when he felt return of pain in injured part of spine. His health now began to give way; frequent rigors, followed by drenching perspirations, occurred; the sloughs extended, although he still lay on the hydrostatic bed, and on the 7th of November are reported to be four inches in diameter over the points of the ilia, and also over sacrum.

He soon lost capability of moving toes,

FIG. II.—*Section of Spine from M'Gill.*



A. Edge of osseous case.
B. C. Parts on which the cord was compressed.

and of having motion excited by pricking; the symptoms were daily aggravated, and he died at 10 A.M. of November 20th, being a day more than seven weeks after admission, and nearly eight from period of receiving injury.

Inspection.—Not any diseased appearance, excepting at injured part of spine, where a fracture was found extending from side to side, obliquely, through body of eleventh dorsal vertebra; the superior articulating processes were also broken, the spinous process of the tenth vertebra forced up, and its body carried forward the third part of its breadth, thereby narrowing the spinal canal at that point, and stretching and pressing upon the cord, which was much softened, and its membranes thickened and separated by effusion. A small part, also, of left side of vertebral canal had been broken up, and a fragment was placed across it, with its sharp edge resting on the cord. (See Fig. 2.)

The portions of the bodies of the fractured and displaced vertebræ were held together at the sides and front by osseous matter in such quantity as nearly to encase them, and prevent more than very slight motion. The state of the ligaments was not ascertained.

CASE III.—*Fracture of spine—Paraplegia—Rigors—Perspirations—Death, 17 days after admission.*

Patrick Gallacher, collier, aged 37: Dec. 27, 1842. Admitted at 5 P.M. To-day, while at work in a coal-pit, a large stone fell from the roof, struck him on the back, and crushed him to the floor of the mine. Complains of severe pain, much aggravated by motion, about region of central dorsal vertebræ, where there is some swelling, and slight appearance of spinal curvature towards right side, but, owing to tumefaction of soft parts, accurate discrimination is impracticable. There is entire loss of motion and sensation below seat of injury, and there is likewise retention of urine.

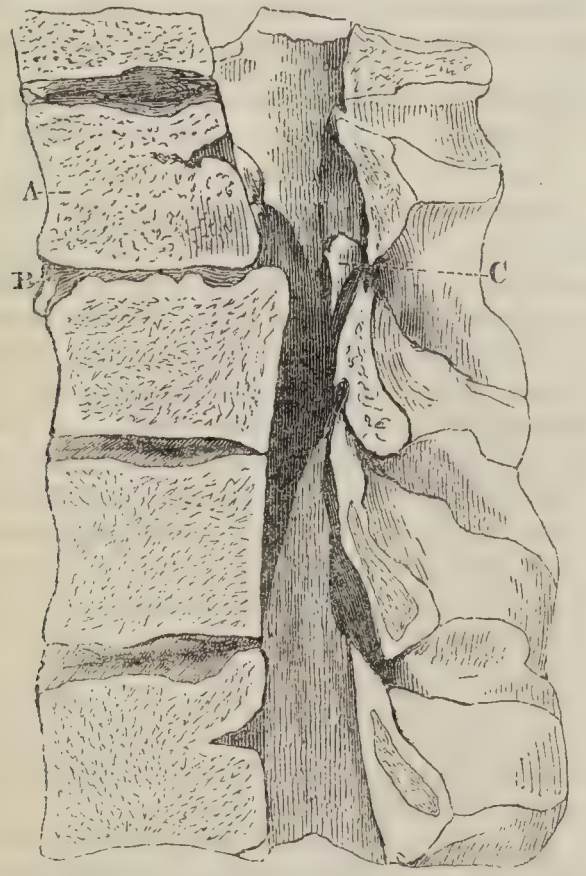
Such is the account drawn up by the clerk. Next day his condition was nearly similar; and then examination was instituted, but crepitation could not be detected.

In this instance the symptoms were at first nearly similar to those detailed as existing in the two former patients—paraplegia, tympanites, ammoniacal urine. He likewise was leeched, and used air-pillows; and, from the uncertainty as to whether fracture was present, and as upon the supposition of its absence mercury would likely have been beneficial by interrupting inflammatory action, and exciting absorption, he was ordered frequent small doses of calomel, which, however, were soon omitted, troublesome diarrhœa having supervened. On the 2d of January, eleven days after the accident, rigors occurred, followed by much

depression and troublesome hiccup. These symptoms yielded in some measure to treatment; but, as in the other patients, frequent cough came on, of which, in this instance, the stethoscope did not detect any cause. By the 9th of January he had become very weak, while the more prominent diseased conditions remained unabated, and he died at 9 A.M. of the 11th, sixteen days after admission. At no time could excito-motory phenomena be elicited.

Inspection.—Upon removing and sawing the injured part of spine through centre from back to front, the intervertebral cartilages between eighth and ninth dorsal vertebræ were found wanting, having been destroyed by absorption or ulceration. The surfaces of the same vertebræ were bare, soft, and soaked in pus. There was some extravasation between the membranes within sheath of cord, and the latter was much compressed and lacerated by a small, thin, pointed fragment of bone, which had been detached from below base of spinous process, and driven inwards.

FIG. III.—*Section of Spine from Gallacher.*



A. Body of vertebra carried slightly forwards and upwards.
B. Bodies of vertebræ resting on each other, intervertebral cartilages being absorbed.
C. Fragment which pressed on and penetrated cord.

The inter-articular ligaments were also lacerated, so as to allow the one vertebra to be raised posteriorly, and carried slightly forwards, and thereby still farther to compress the cord. Examination of other parts not allowed.

REMARKS.—The spinal column containing organs whose structure and functions are closely related to those of the contents of the cranium, the immediate and remote consequences of fractures of the cranium and spine, and the principles on which they respectively require to be treated, according as they are simple or compound, and accompanied or not with displacement, bear a close analogy to each other. But the difference in form of those two parts of the osseous system, their different localities and coverings, render it difficult, if not impracticable, to carry out the same principles of treatment in both descriptions of cases.

In the cases above narrated we have exemplified the direct and indirect modes in which fractures of the spine may be produced. In the first, that of M'Lusky, the violence was applied indirectly, the impetus of the stroke upon the head being conveyed through the cervical to the dorsal vertebræ,—a mode of production comparatively rare, the elasticity of the intervertebral cartilages, and the yielding that results from the undulating line of the column, enabling the spine generally to resist the effects of falls, either on the head or feet.

Fractures from the direct application of violence to the spine, as in the other two patients, are of more frequent occurrence. They are met with, I think, in far greater frequency among colliers than any other class, in consequence of their liability to be struck, while at work in the recumbent posture, by heavy stones falling upon them from the roofs of the mines, and in this posture, the spine, being unfavourably placed for offering resistance, frequently gives way.

Two of the above three patients were colliers, though only one of them received the fracture while at work. I had a third patient in the hospital with symptoms not unlikely dependent on fracture of the vertebræ, in whom I am glad to say I had not an opportunity of demonstrating the correctness of my diagnosis. At this moment I know two colliers who have been long pitiable objects, from complete paralysis below the seat of injuries over the spine; and I have known several others in similar conditions.

From the symptoms being common to several other lesions, fractures of the vertebræ are not always recognized with facility. Concussion of the spinal cord, pressure on it by extravasated blood or

displaced bone, will frequently occasion perversion or interruption of sensation and power of motion below the seat of injury; so that any of these conditions do not afford positive evidence of fracture; and if, in similar injuries of the head, with the aids arising from the affected or unaffected mental functions, contractile or dilated pupil, healthy or laborious respiration, and the quick or slow pulse, it be difficult to determine the kind of lesion, in fracture of the vertebræ the diagnosis is, if possible, still more difficult to arrive at.

The figure or line of the spine, even when there is considerable displacement, does not so much assist the diagnosis as the inexperienced may suppose. The bodies of the vertebræ are thickly covered by muscles, and are strongly connected by ligaments; and thereby not only are their displacements obscured, but their motion also being prevented, crepitation is neither easily produced nor detected.

When the spinous processes are fractured, manual examination will generally detect their condition; but although the transverse or oblique processes or the bodies of the vertebræ be broken, pressure with the hand, or movement of the trunk, does not influence the fragments so much as to cause change of place and crepitation, in consequence of the motion being diffused along a considerable distance, through the slight flexion permitted at each intervertebral space.

Even although fracture be in any case evident, it is not always nor generally practicable to determine its locality or extent. These points were well shewn in the case of M'Lusky. The drawing of the cleaned and dried fractured portion of the spine might lead one to suppose that the nature, locality, and amount of the injury, were remarkably conspicuous. Crepitation was at first perceptible, and the outline of the spine was materially changed, there being an obtuse angular projection between the apices of the scapulæ in place of the ordinary regular curvature; still the alteration of the contour was much less than the drawing of the prepared spine indicates, and when the patient and his wife became aware of our suspicions of fracture and much displacement, they assured us there was no change in his figure, he having always been "round-shouldered."

The change in the natural line of the spine being less than the actual displacement would have led us to expect, is accounted for by the broken spinous processes not having followed the bodies to which they belonged, but, from their oblique direction, being caught on the vertebræ immediately below*; they remained nearly in their original situations, thereby preventing the abrupt alteration which would otherwise have been caused by the one vertebra being so far carried before the other (as in this case), and keeping up a comparative equability of spinal curvature. Similar conditions, in less degrees, existed in the case of M'Gill, in whom, from the absence of crepitation, there was not positive evidence of fracture until the tumefaction of the soft parts subsided, when an abnormal prominence of the spinous processes over the seat of the injury, taken in conjunction with the other symptoms, gave nearly indubitable evidence of fracture and displacement. In the third instance, that of Gallacher, there was neither crepitation nor alteration of contour at any period of the case, the mischief consisting of a small spicula, detached from the posterior part of the canal, under the base of the spinous process, the spinous process itself being unbroken, and there being, consequently, no unnatural motion, and no sufficient alteration of locality of parts to be seen or felt externally.

Apart from the difficulties in diagnosis, owing to the coverings, connections, and natural motions of the vertebræ, there is usually considerable swelling of the soft parts, further increasing the obscurity; and there are, or ought to be, the obstacles arising from the dread of increasing the amount of injury by such freedom of examination as is required to make the nature of the case unequivocal. If I argue aright, then, it follows that, in many instances, fracture of the spine may exist without possibility of detection. There may not be any alteration in the line of the column; unnatural motion may be absent; crepitation may be wanting, or may not be heard; while implications of the functions of the spinal marrow, if present, do not afford a positive means of elucidating the diagnosis, seeing that they are common to con-

* See B, in Fig. 1st.

cussion and extravasation, uncomplicated with fracture.

The case of M'Lusky, in whom one portion of the fractured spine was carried completely in front of the other, while the deformity was, nevertheless, far from conspicuous, tends to shew that, in spinal fractures, the depth of the bones from the surface, and the thickness of muscular covering they possess, render the detection of these fractures less easy than reflection would have anticipated. Nor even when fracture is tolerably manifest, as in the instance of Gallacher, can correct deductions be drawn as to the seat or extent of the injury; for, in the case referred to, the injury to the spinous processes which were prominent was the least important of the osseous lesions, the oblique processes being likewise fractured, the articulating surface of one of the vertebræ broken off, and the vertebra above carried forward for a quarter of an inch, thereby diminishing the calibre of the spinal canal to an equal extent*.

The difficulty of forming a correct diagnosis is equally well proven by the third case, that of M'Gill. Here there was neither crepitation heard, though the stethoscope was employed, change of form observed, nor unnatural motion perceived; and yet there was fracture of so much more serious a nature than in either of the other cases, as to destroy the patient in less than a fourth of the time of the shorter-lived of the two.

So far as can be inferred from the three cases detailed, the prognosis is very unfavourable in cases of fractured vertebræ; and although the life of the patient be not destroyed by this species of injury, it very often, but not invariably, happens that sensation and voluntary power, generally lost from the moment the injury is received, are only partially restored; and oftener still, that they never in the least return; and the patient, often unable to retain his fæces or urine, incapable of locomotion but by exertion of his hands and arms, drags on a comfortless and hopeless existence, a nuisance and a burthen to himself and all his connections.

The function of respiration is the only one resident in the spinal cord, the entire interruption of which is immediately destructive of vitality; and as that process is partly dependent on the phrenic, and partly on the spinal nerves, the *immediate consequences*, in fractures of the vertebræ, will vary as the injury is above or below the involuntary or diaphragmatic, or higher or lower in the spinal or voluntary nerves of respiration. But although the function of respiration be the only one presided over by the spinal contents, the interruption of which may be instantly fatal, the collection of mucus in the bronchi, the tympanitic abdomen, the ammoniacal urine, the sloughing of the soft tissues, in the patients whose cases I have detailed, shew that the spinal nerves perform other functions besides those of respiration, voluntary motion, and sensation, the interruption of which may materially aid in hastening the fatal result which so generally follows fractures of the spinal column.

If death be not occasioned immediately, or very soon, by the deprivation of important or extensive nervous functions, dangers to life arise from several sources — inflammation, softening, or suppuration of the spinal cord; or the first and latter of those actions in the sheath; or similar states in the intervertebral cartilages; and occasionally the involvement of all these parts at the same time.

Supposing the patient to escape from the risks specified, still, in consequence of pressure on the cord from displacement of the vertebræ; from the effects of undue deposition of callus, or effusions, which become organised; of induration or softening of the cord, &c.; sensation and power of motion never return, or return only in slight degrees; the vital powers of the paralysed parts are much diminished: indeed, it may be said that they do not possess more than vegetable life: from very slight pressure this is destroyed, and, upon separation of the resulting sloughs, large ulcers are produced, while the same causes still acting, the ulcers extend, and, from the consequent discharge and irritation, debility and death are much hastened, as in the cases detailed.

When we closely consider, then, the amount of injury done to the ligaments, the intervertebral cartilages, the bones, and still more to the spinal cord and membranes, and the consequent morbid actions induced in fracture of the spine

* See Fig. 2, letter B.

accompanied with displacement, as in two of the cases related, M'Lusky and M'Gill, we are at no loss to account for the serious terminations.

In both of these patients the displacement of the vertebræ at the seat of fracture was so considerable that the lateral ligaments were lacerated—in M'Gill partially, in M'Lusky completely; the anterior and posterior ligaments were likewise similarly injured.

In addition to ligaments, the vertebræ being firmly united to each other by the intervertebral cartilages, they cannot be displaced without tearing of the substance, or separation of the cartilages from the bones; and the cartilages becoming inflamed and ulcerated, we readily perceive why they were not found, and why the surfaces of the bones they had united are bare, soft, and approaching the state of caries.

In M'Lusky, in whom the fractured vertebræ overlapped for half an inch, thereby causing shortening to double that extent, the aorta, cava, and thoracic duct, must have been displaced anteriorly or laterally. No disturbance of the functions of these vessels was observed, and their exact conditions were not ascertained, permission to examine other parts than the fractured spine being refused in his case, and also in the other two patients.

In M'Lusky and M'Gill there was dislocation as well as fracture. We suppose that simple dislocation, from a blow upon the spine, or a fall on the head or feet, is next to impossible in the dorsal or lumbar vertebræ. We can conceive that the bones might be dislocated without fracture, by extension and counter-extension, or a blow directed obliquely upwards; but when driven past each other by a force acting transversely to the length of the spine, the articulating processes must inevitably give way; and where the spinous processes overlap, they, too, will generally be fractured. Again, there may be fracture of the processes with or without the bodies of the vertebræ being broken; but if there has been considerable displacement, either the *intervertebral cartilage* or *bodies of the vertebræ* must have suffered.

In the preparation from M'Lusky, the body of the third dorsal vertebra is seen to be fractured obliquely from behind forwards and downwards, and a portion of it, with the vertebræ immediately above, carried in the same direction, and resting partly on the front of the first and second bones below. A portion of a spinous process is to be observed fractured and tilted up; and on the posterior aspect of the preparation, in the fossa between the spinous processes and detachment of the transverse processes and ribs, there is a confused collection of fragments, huddled closely together, seemingly portions of the transverse processes and posterior arches of vertebral canal.

The ribs attached to the vertebræ of the upper portion of the spine are carried downwards, forwards, and inside of those of the inferior portion; which relation of parts must have put the soft tissues behind much on the stretch, correspondingly relaxing those anteriorly.

There is only the slightest appearance of deposition of new bone around the seat of fracture, though the patient survived eight weeks after injury; and the parts appear to have been mainly held in connection, and motion to have been prevented, by condensation of the surrounding soft tissues, the remains of the ligaments and muscular attachments.

The inferior termination of the divided cord is seen an inch and a quarter before the superior extremity of the inferior portion. The extremities were slightly rounded, rather softer than adjoining portions, somewhat red, and covered by membranes. The membranes near the divided part were redder and thicker than in health, and there was a small quantity of blood between them and the cord.

In the preparation taken from M'Gill, the spinous, transverse, and oblique processes of the 10th and 11th dorsal vertebræ have been fractured, and are confusedly heaped together; the intervertebral substance between these two bones is removed, and the upper of the two vertebræ is carried forwards for a third of the diameter of the lower: spiculæ of bone shoot from the surface of the one vertebra to the other, but do not unite; osseous matter is likewise deposited around them, and under the lateral ligaments, and also under the ligaments passing from the transverse processes above to those immediately below.

The case of bone thus formed is connected to the upper edge of the 11th, which is the fractured vertebra, and extends and is united to the upper margin of the 12th. Spiculæ shoot from points of the interior of this osseous case to the sides of the 11th, which is thus enclosed in the case; but these points of attachment are not numerous or extensive. The osseous case is not perfect all around, but it is reasonable to suppose it would have become complete and strong enough to have held the vertebræ firmly together. It is rough interiorly, and externally is closely united to the ligaments which lie over it: it is about the thickness of strong pasteboard, and was so firmly connected as to prevent all but very slight motion at the fractured part. The vertebral canal is narrowed to nearly one-half its normal diameter; the cord was consequently compressed, and was also stretched from the elongation of the canal, by the one bone being carried before the other. The cord was soft, almost pultaceous where compressed: the membranes reddened and thickened.

It was stated that about an ounce of pus was found at seat of fracture: the pus was contained within the osseous case, and was probably secreted from the surfaces of the vertebræ at the seat of displacement, which have been already described as having been found carious: the membranes of the cord were consequently soaked in pus.

In this case, ossific anchylosis, and in so far the progress to a cure, had considerably advanced. Whether absorption of that part of the vertebræ projecting into the canal, and thus restoration of the functions of the compressed spinal cord, would ever have occurred, is I think very improbable: though some analogous-like processes have been observed in the cranium, where the sharp edges of fractured portions pressing on the brain have been found partially absorbed and rounded off, thus diminishing their injurious effects.

In the third case the main pathological appearances were similar to those in the other two. The displacement is much less considerable, there being only a very little in the axis of the bones, and a slight elevation of the one from the other, particularly behind: to permit this separation, the posterior lateral ligaments have partially given way, and the intervertebral cartilage has been torn in its substance, or from its connection with the surface of the one or other vertebræ at injured part; which explains why it was found entirely destroyed, the injury done to it inducing inflammation and absorption, and leaving the bones bare, carious, and soaked in pus. The displacement in the axis of the spine being small, the cord was here only slightly stretched and compressed on the edge of the vertebræ below the one fractured; but the spinal canal was much narrowed, and the cord not only pressed upon, but penetrated by a sharp spicula detached from the lateral and posterior part of the osseous canal under the bases of the inferior oblique and spinous processes. (See Fig. 3.)

The extreme sharpness of the spicula, its great displacement, the point being thrown half across the canal, its consequent pressure on and wounding of the cord, the irritation, inflammation, and softening of the cord thus induced, explain the severity of the symptoms, and the rapidly fatal issue in this case.

[To be continued.]

ON CONSTITUTIONAL IRRITATION OR GENERAL DISTURBANCE.

By T. Wilkinson King, F.R.C.S.E.

(For the Medical Gazette.)

[Concluded from page 337.]

We have adduced these facts to shew that the simply healthy frame is not much subject to the sympathies of pathologists.

There does not appear to be much difference between a severe crush and an extensive burn, as causes of collapse; and we may at least compare to these cases that of peritoneal extravasation. In all, perhaps, the pain precedes the collapse; there may be poisonous absorption in the last. In strangulated hernia and acute peritonitis we may find more or less of collapse; but these are far from being simple cases, and they are still less uniform. In the first we often seek to increase the depression; and in the last there is more of complication to be detected than in cases of painful inflammation elsewhere.

It is, of course, not to be concealed or disregarded, that particular pains or parts may be more concerned in the

origin of depression than others. The stomach and bowels, the testis and kidneys, when injured, may give manifestation of disturbance in manner and degree very different from that excited by violence to an extremity.

Here we would refer to a specimen* in the museum at Guy's, in order to explain a fact which is, perhaps, less uncommon than at first sight might be supposed.

A patient suffered very frequent attacks of pain about the right hypochondrium, which were extremely depressing, but which, after a certain continuance, suddenly went off. A stone had, to all appearance, been so circumstanced as to obstruct the commencement of the ureter, and, after a while, to fall back into the renal pelvis; and so on repeatedly. The pelvis was only moderately dilated, and the kidney was tolerably healthy.

Possibly the neuralgia of the ureter, described by some authors, may be explained by similar or equally physical facts. Catarrh, ulcer and stricture, and variable obstructions, are certain enough in the ureters†.

Rigor, Hunter makes to depend on "the novelty of an unaccustomed action or impression." We would rather impute it to feebleness in the patient, and to transitoriness of the cause or impression, whatever it may be. The rigor arises out of a certain state of the system (we would say, of the blood); and it is a fact, that rigor, sweat, and fever (if the attack of an habitual tertian is fever), are all equally harmless and fleeting. The cause of the relapse seems to take so many hours to accumulate or become efficient. The evils of fever consist in those more serious disorders which are not disposed of in an hour or two—bad blood, more or less fixed disturbances of functional balance, old and settled visceral disorganizations, and new supervening obstructions or inflammations.

A delicate youth, on a cold day, crushed the tips of two of his fingers between the cogged wheels of a capstan; he ran home with his teeth chattering, and lay on the sofa for many minutes in a sufficiently marked rigor-fit. No other general disturbance followed, and the lacerations healed well.

An aged gentleman, from the tropics, went into the country, and was induced to pass part of the evening sitting in the garden; he was seized almost unawares with an alarming shivering fit, and his friends waited anxiously for the sequel. He arose in the morning as well as ever. Let us suppose the rigor induced in one liable to rheumatism or bronchitis, or who has much settled renal obstruction. Let the reader further simply consider what is certain enough in physical, and nervous, and humoral views, in the various forms of reaction, after cold, or fright, or bleeding, or injury, or merely after a sudden needful depletion. Then let him examine the hectic following each meal, and each tonic dose given to a wavering convalescent from fever, or in a declining case of open fracture or phthisical diarrhœa. He will see altered blood, and sensitive and motor nerves in action, and unsteady capillary acts and products. We do not assume that this is all he may discover; but we hold that this much is real, and that sympathy, if any thing *else*, is ideal as at present received, and a constant cause of stumbling in inquiry.

We would hope that it is unnecessary again to point to the needful course of analysing, or to the caution required in accepting, such prevalent reasoning as the following:—

"If painful news take away appetite, or pinching a tendon (? the skin over a tendon) occasion a sensation of sickness; if anxiety or apprehension excite the desire to pass stool or urine; if the sight of savoury food promote a secretion of saliva; if certain articles of diet provoke an eruption of the skin, or worms in the intestinal canal produce a temporary blindness;—the irritability of the affected organ is sympathetic." (Travers on Irritation, page 10.)

If it should ever be established, that there is one constitutional symptom proper to worms, or any general convulsion set up by teething, it will then appear how devoid all the preceding views have been of philosophic proof.

A splinter in the nerve of the thumb is said to cause trismus; but can we pass a harmless seton without an equal local intrusion upon nerves? The counter-irritation of a blister or a

* No. 207746. Renal calculi found only in one kidney. Case of Robert Garbutt, æt. 21. (See Guy's Hospital Reports, vol. vii. page 175.)

† See, again, Museum Specimens.

purgative is thought to be only healthy. A spontaneous diarrhœa, removing from the blood the very cause which induced it, does not proceed from mere irritable bowel, though it recur twice a week; and an issue, removing so much from the system, and facilitating, by so much, the natural depurations, has the peculiar office of acting instead of any weak organ, and more copiously, perhaps, than such would, after every exposure or excess, &c. To observe and reflect with advantage requires a broad line kept between what is certain and what is doubtful or fanciful. It may much assist the study of counter-*irritation*, first, to separate the humoral action from the nervous; and secondly, the quantitative effect from the specific and the variable as relates to the fluids only.

It does not require a Hunter to assert (as Hunter conformed to do) that disordered dentition produced contraction of the fingers and toes; but we conceive more than a Hunter would be required to prove it. Our conclusion is, that we know not how little value to set upon such inferences. We know that a burnt cheek, or an abscess in the jaw, produces no such consequences.

An author in some esteem makes the following reflection:—"Though worms by many people are reckoned one of the principal sources of children's complaints, yet I cannot help thinking, that worm cases more rarely occur than is commonly imagined; for I am very well assured that the common symptoms of worms, such as picking the nose, grinding the teeth in the sleep, starting and calling out while asleep, sleeping with the eyes half-open, a wan complexion, a stinking breath, pains in the stomach and bowels, a want of appetite, or, on the contrary, a perpetual craving for food, a depraved appetite, &c.,—I say I am well assured that all these symptoms are frequently produced from a foulness of the primæ viæ when there are no worms in the case. I have good reason to say so, because I have had numbers of children with the above symptoms under my care, who, by the use of proper medicines for cleansing the bowels, &c. have got rid of them all, without ever having been observed to void one single worm, though while their purging medicines were operating the stools were carefully inspected. Nay, I may venture to say, that of the whole number of children brought to the dispensary, who from the apparent symptoms are supposed to be troubled with worms, there is not one in ten that has ever voided any, nor do any make their appearance during the whole time of the cure*." We are glad to find some authority opposed to the fancy of worms. We hope that it will not be very difficult for our readers to explain each of the symptoms referred to worms by recurring to the general state of the body, which of course affects, and is affected by the primæ viæ, as it is influenced by cold or heat at the surface, or cheerfulness in the mind, by secretion, depuration, loss or repletion.

It is common enough to speak of local irritation keeping up general disturbance, as fever, hectic, tetanus, convulsions, and the like, but we should endeavour to dissect the substance of these opinions. Pain produces its effects, anxiety likewise, and any material discharge will be an additional distress to the whole system.

Is it wonderful that with the deteriorated body the opening of a psoas abscess, of an hydatid or ovarian cyst, of a bursa or a joint, should be the starting-point of fresh and terrible morbid changes. The mere defect of reparative acts is a daily augmenting source of mischief. The tardiness of repair natural to some tissues is another evil. What are the rigor and fever of catheterism but evidences of the last impulsions of the overturning balance?

Sir B. Brodie, perhaps rather hastily, expresses the following opinion:—"The heart sympathises with the local irritation (of stricture or catheterism), the pulse is hard and frequent, the face flushed, the skin hot, and the tongue is coated with a white fur." Now we know that this train of symptoms belongs only to a disordered body, and cannot be produced as a general result by the supposed causes. It is a very different mode of viewing the facts, to observe that the smallest cause may unsettle the balance when delicately hung, or make the weak body tremble; and that even the greatest sudden causes are hardly equal to any similar effects when all is strung for resistance.

Mr. Hunter, for once too ready, we

* Vide London Med. Review, vol. i. p. 227.

think, to take up the floating doctrine of his school, did not scruple to impute gout in the stomach to sympathy of that organ with cold feet, but we hardly now doubt that the humoral circumstances must be first ripe for gout when something less than cold feet may decide the event, as probably a very little thing directs its locality. A writer in the Medico-Chirurgical Transactions imputes hæmoptysis to worms in the intestines: how are we to admit that any but local physical injuries or capillary nutritions can cause bleeding?

The *contiguous sympathy* of Hunter is resolvable into a very simple process of capillary function. A spot being inflamed, good nutrition repairs it; and thus "*resolution*" precludes the manifestation of contiguous sympathy. On the other hand, when nutrition is perverted, the inflammation persists; and the same disordered nutrition prevailing, the adjacent capillaries take on the same kind of inflammatory action as occurred in the initiative spot. It is easy to see that all parts being defectively nourished alike, the capillary next to the disease being also in addition locally disturbed, should be most ready to fail—that it is, as it were, attacked in front as well as unsupported in the rear. Besides defective supply there is obstruction or too easy exit for its contents. Say only that increased heat or chemical activity is near. It is doubtless true that in different states of the fluids different tissues are the most prone to disorder and disorganization; but it is equally certain that different kinds of inflammation do not invade the same body at once. There is watery, or purulent, or fibrinous inflammation in several organs at once. These three never affect the same body at once—*diffusing inflammation*, "*contiguous sympathetic inflammation*," is only the persistence of the first general state, keeping up and extending the first mode of local action. Wide-spread inflammation subsiding is the result of a salutary change in the blood, operating first where the inflammatory deterioration has been least, and repairing gradually the more disturbed parts. Here the repairing blood invades the diseased capillaries in front and in flank as the little tubes (with the tissues they inhabit) become one by one repaired, and contract and give up, or spare, all surplus of supplies to their more needy neighbours.

Contiguous sympathy is therefore not a nervous consent of parts, but a humoral action on the capillaries and solids. Two joints, several bones, or all the serous membranes, take on one kind of inflammation together: even gout or erysipelas may invade external and internal parts together: but there is a substantial reason why copious solid effusions should often be confined to one part: it is obvious that diffused phlegmon of a limb must tend to preclude for the time the like changes in a lung or elsewhere, though a febrile or even an inflammatory state prevail in the whole body.

A pustule may be very little more than an incomplete ulceration or atrophy: where pustules or excoriation appear around a sore or under a poultice or strapping, we see, first, constitutional defect; secondly local irritation or difficulty; and thirdly, perhaps some contiguous sympathy or capillary derangement extending continuously from a sore. All these may concur, but which is the efficient source of all? and what but the blood repairs all?

Local disease is a cause of simple irritation when it acts by causing pressure or extension, or by removing them. A tumor exemplifies the first effects, and ulcer the last.

Gout in the foot may remain long nearly stationary, while a febrile state of body is arresting nutrition and leading to relief by gradual depurations throughout the system.

Fresh general deteriorating causes make the gouty action suddenly spread, or seize the meninges. There are modern surmises that some such element as lithate of soda in the blood is the causative specific of gouty inflammation. We would, however, look more circumspectly at the whole phenomena. We see perverted nutrition, tumefaction, softening, thickening of fibrous tissues, and sensitive tissues in particular, together with a mere modification of common fever; and as all the functions have been previously disordered, we know that they will subsequently return to an easy and happy measure of activity. It is altogether unreasonable to suppose that all the several disturbances of gout should depend on a single and simple chemical compound.

We feel that apology is needed for the manner in which our subject has been here treated*.

To show that diseases are not simple mysteries is comparatively easy: to demonstrate any one disease as a series of certain causes, is scarcely yet practicable. If we have done anything towards removing error, or to introduce the right method of tracing the events and complications of disease, we may hope to be excused for many deficiencies in our attempts to define irritation.

If there be specific sets of causes of catarrh, phlegmon, fever, dropsy, struma, and cancer, surely the method we propose may be expected to bring us nearer to the right knowledge and management of them; and so much we yet hope to establish satisfactorily.

36, Bedford Square,
May, 1844.

REPORT
ON THE
ROYAL MATERNITY CHARITY.

By F. H. Ramsbotham, M.D.

(For the London Medical Gazette.)

[Continued from p. 331.]

During the year 1838, there were delivered in the Eastern District of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham,—

2136 *women—Of which cases,*

25 were twins—about one in every 85½ cases: of these in 11 cases both heads presented; in 9 the presentations were head and breech, or some part of the inferior extremities; and in 5 both were breech or inferior extremities. The children in 5 cases were both boys; in 8 both girls; and in 12 of different sexes.

1115 were males.

1046 were females.

2087 were presentations of some part of the head; of which 7 were face presentations—about one in every 310 births.

68 were presentations of the breech, or some part of the inferior extremities —being about 1 in every 32 births; of these 19 were twins.

6 were transverse presentations; all of the shoulder or some part of the upper extremities—about one in every 360 births; all these children were at full time, and delivered by "turning;" three of them were born dead.

In 1 the placenta was implanted entirely over the os uteri; the breech was presenting above; the feet were brought down, and the woman delivered without a great loss of blood: she did well. The child was still-born.

6 were complicated with alarming hæmorrhage before delivery, *not* the result of placental presentation—one in every 356 cases. In one case the flooding was occasioned by a severe fall which the woman met with; in another the funis prolapsed: in all the hæmorrhage was stayed or much diminished by the membranes being ruptured. All the children were expelled naturally; three of them still. All the women recovered.

In 11 cases the placenta was retained within the uterus, either by atony, or irregular contraction of the uterine fibres, or by morbid adhesion between the uterine and placental surfaces, requiring the introduction of the hand for its removal—about 1 in every 194 cases. With all there was more or less of hæmorrhage. Two of the women died; one in two hours after the removal, from the hæmorrhage; the other in 10 days, from hysteritis.

4 were complicated with alarming hæmorrhage after the placenta was born —one in every 534 cases. One woman died; it was a case of twins; the labour was very rapid; both children were expelled before the midwife arrived: an officious neighbour who was present immediately pulled away the placentæ, and when the midwife got there the patient was dying.

3 were delivered by the forceps—1 in every 712 cases; 2 of these were first children; one was the woman's 12th; the uterus acted feebly from the commencement of labour: 2 were born living; the latter dead and putrid.

In 1 premature labour was induced artificially at 7½ months by perforating the membranes; the woman had a small pelvis, and the same operation had been performed for her frequently before; the child was born living 52 hours after, but only survived an hour.

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* Various matters in connection and corroboration, and even in continuation of our views, may be found in papers of this journal, Guy's Hospital Reports, &c. communicated during the last few years.—T. W. K.

2 were complicated with rupture of the uterus—1 in every 1068 cases: one was the woman's 10th child; she always had had lingering labours, her pelvis being distorted at the brim; the accident occurred 8 hours after the membranes had broken; the head presented; the pains had never been strong, and the rent was not attended with any tearing sensation; it was horizontal in the anterior part of the cervix. When I arrived, both the child and placenta had escaped into the abdomen, from which cavity I removed them, delivering *per vias naturales*, by the feet: the child was dead: the woman rallied somewhat after delivery, but died in 24 hours. The other patient died in 40 minutes after delivery. It was her 8th child, and a head presentation.

9 women died either from puerperal causes, or within the puerperal month —one in every 237⅓ cases.

2076 children were born alive.

85 children were born still—about 1 in every 25½ births.

Of the Deaths,

1 was from hæmorrhage speedily after the birth of twins, in consequence of a neighbour officiously extracting the placentæ, during the midwife's abscence.

1 two hours after the removal of an adherent placenta, from hæmorrhage,

1 from hysteritis 10 days after the removal of an adherent placenta.

1 from "collapse" five hours after delivery of a dead child; there was no flooding: I suspected a disease of the heart.

2 from ruptured uterus; one 40 minutes; the other 24 hours after delivery.

1 from puerperal mania a month after delivery.

2 from common fever; one 7, the the other 10, days after delivery.

Of the still-born children,

19 were premature.

12 were putrid, at full time, or nearly so.

14 were presentations of the breech or some part of the lower extremities, at full time or nearly so.

3 were transverse presentations.

1 was delivered by the forceps; it was putrid.

4 under very lingering labour.

2 under ruptured uterus.

2 under a face presentation.

1 under a placental presentation.

2 after violent accidental hæmorrhage.

With 5 the funis prolapsed by the side of the head.

With 7 the funis prolapsed by the side of the breech; 1 was acephalous.

12 were at full time, not putrid, nor delivered by art.

TWO CASES OF UNUSUAL DISLOCATION.

To the Editor of the Medical Gazette.

Sir,

I beg to submit the following brief statements of two unusual kinds of dislocation, and shall feel obliged if you will insert them in your journal.

Your obedient servant,
J. C. Spender.

Gay Street, Bath,
May 12, 1844.

1. *Dislocation of the sternal extremity of the clavicle backwards.*—Some time ago, I was requested to visit a gentleman, residing about three miles from Bath, who had received an injury from a fall. He was riding at rather a rapid pace, when his horse fell, and threw him off; and the animal, in attempting to rise, placed one of his forefeet on the right clavicle, whilst the gentleman was still lying on his back. Considerable uneasiness was immediately experienced by the patient, with a sensation of something passing into the upper part of the right side of his chest. On examination, the right clavicle at its sternal articulation was found completely dislocated backwards, leaving a vacant space at its junction with the sternum. By placing a wedge-like compress of sufficient thickness in the axilla, and forcibly drawing the humerus outwards and backwards, the clavicle approached its natural situation; and tight bandages of flannel were employed to keep the arm in that position. Some uneasiness was felt during the night—more, however, from the bandages than from the injury—but the patient became accustomed to the pressure, and the applications were not removed for several days. This plan was pursued for a sufficient time, and the bone is now perfectly fixed in its proper place, so that there is no more depression at present existing than in the articulation of the opposite side.

2. *Dislocation of the carpal extremity of the ulna inwards.*—A lady, at the latter end of last January, was seized early in the morning with giddiness, and fell forwards. On being lifted up, the left arm was found useless, and the right wrist stiff and painful; but ignorant of the serious nature of the disease, I was not called to see her until 12 o'clock. At this time the wrist was greatly swollen, so as to render it difficult to determine the precise character of the injury. The fingers were rather bent, but not forcibly so, admitting of tolerable motion with little difficulty. The distance from the elbow to the apex of the fingers corresponded with the length of the opposite forearm, which seemed to prove that there was no dislocation in the ordinary way either backwards or forwards; and although there was great tumefaction, yet it was of an uniform kind, not abrupt, as if produced by the displacement, still less by the overlapping of the carpus on the forearm. The thumb was not quite in a proper line with the radius, but slightly inclined inwards; not, however, sufficiently so to convey the impression of an usual dislocation of the lateral kind. The ulna at its articulation with the cuneiform bone was not perceived, in consequence of the swelling, but the bone higher up the arm seemed to be in a proper line with the little finger; beyond this, the swelling was so great as to render it impossible for me to determine the exact nature of the accident. Leeches, cold lotion, and the other common remedies to lessen inflammation, were employed; and on the following day, the same obscurity existing from the same cause, the limb was supported on a splint, with the view of straitening the parts in their natural position, whatever the injury might ultimately prove to be. These means were continued for a few days, and when the swelling was sufficiently removed to make the discovery, the ulna was found to have sunk down from its attachment with the carpus, and to be pressing on the flexor tendon ulnaris. I then employed two firm splints, interposing a compress on the depressed end of the ulna with the design of raising the bone to its proper position, but the application produced so much pain that the splints were removed soon after I left the house. As it appeared impossible to bear the requisite pressure from the two splints, a long single flat one was selected, extending from the elbow to the fingers, and resting the forearm on its surface: the radius and carpus were bound down so as to approximate them to the depressed ulna; but the tapes had frequently to be removed, in consequence of the pain they excited. This plan was pursued for about three weeks, when the fingers, which had been kept in an extended position, were stiffened, from the effects of inflammation propagated from the wrist. This threatened also to be of a rheumatic description, as the lady, previously to the accident, had been suffering from chronic rheumatism of the right lower extremity. I then thought it better to compromise matters, and rather than permit the fingers to become stiff, and perhaps useless, to allow them to be moved, even at the risk of perpetuating some deformity at the wrist-joint; supporting the depressed ulna with a piece of soap plaster or thick leather, and using the splint only at night. The swelling gradually lessened, and allowed me more perfectly to determine the character of the injury, which I found to consist in a very marked and unusual displacement of the articulating end of the ulna, whilst the carpus, having lost the support of this bone, and still attached to the radius, gave an obliquely distorted character to the hand at the joint. By gradually and steadily using the hand there is a very tolerable and improving motion in the fingers, enabling the patient to write, and to feed herself; there are also ample powers of rotation at the wrist; but there is yet inability to bend the fingers close to the palm, and an unnatural appearance at the joint.

CONTRIBUTIONS TO THE PHYSIOLOGY OF THE HUMAN OVARY.

By Charles Ritchie, M.D. Glasgow.

[Concluded from p. 285.]

25. The simultaneous development in the ovaries of two corpora rubra (20) was not met with in the present series of observations—a circumstance which may be attributed, however, to the comparatively limited nature of the latter, the general results of which, in respect to the ovaries of recently impregnated females, may be thus stated.

Appearance in Ovaries of,	Coincident with a period after conception of
a. *One* cerebriform body, with *single* cobweb-like lining (19 A). (Corpus luteum of Dr. Montgomery.)	A few weeks, P. II., S. I., 1. About four months, Sect. I., 3. About four months, Sect. I., 5 a. Four months, Sect. I., 6.
b. *Two* cerebriform bodies, with *single* cobweb-like lining (19 A); ovum of one only being fecundated.	About six weeks, Sect. I., 2. Seven months, Sect. I., 7.
c. *One* cerebriform body, with *double* lining; innermost hard and opaque, with *persistent* cavity (19 B). (Corpus luteum of Dr. R. Lee.)	Three months, Sect. I., 4, 5. Four months, Sect. I., 6 a. Eight months, Sect. I., 10. Nine months, Sect I., 11 a. Nine months, Sect. II., 2.
d. *Two* cerebriform bodies, *one* with *double* lining, as at *b*; the other with *single*, as at *a*; and only one conception.	Seven months, Section I., 8.
e. *Two* cerebriform bodies, *both* having the granular matter *exterior* to the *membranes*, as at *c* (19 B); ovum of one only impregnated.	Nine months, Part II., Sect. I., 9.
f. *Cerebriform* bodies of *both* kinds (19 A. B.) in a *transition* state to *red bodies* (20); and, in common with all the varieties of corpora rubra, seen only in the puerperal female.	Nine months, Sect. I., 9, 10, 11. Sect. II., 1.
g. *One* red body (20), with *single* cobweb-like lining, apparently a *conversion* of 19 A.	Ten months, Sect. II., 3. Eleven months, Sect. III., 2, 3, 5. Twelve months, Sect. IV., 3. Thirteen months, Sect. V., 1, 3.
h. *One* red body (20), with thick opaque lining, apparently a *conversion* of 19 B. Redness in *outer* layer.	Ten months, Sect. II., 5.
i. *Red* bodies; the redness situated in the *inner* layer (19 B), and apparently in a transition state to white bodies (16 B).	Thirteen months, Sect. V., 2, 4.
j. *One soft white* body (16 A). (Corpus luteum of some writers.)	Ten months, Sect. III., I.
k. *Two* or *more* soft white bodies (16 A); one conception only.	Twelve to thirty-six months, Sect. IV., 1, 2; V., 5; VI., 4, 5, 6, 7, 8, 9, 10.
l. *One hard* white body (16 B). (Corpus luteum of Von Baer.)	Eleven months, Sect. III., 4. Fourteen months, Sect. VI., 1.
m. *Two* or *more* dense white bodies (16 B), some of them probably conversions of cerebriform bodies (19 B), from absorption of external granular matter.	Tenth month, Sect. II., 4. Thirteenth month, Sect. V., 4.
n. Unruptured ovisacs *only*.	Fifteen months, Sect. VI., 2, 3.

26. There was no evidence furnished by any part of the investigation that granular matter was ever secreted around an unruptured Graafian follicle. A few of the cephaloid bodies in the pregnant female, instead of containing a coagulum, or being either empty or having their walls agglutinated together, were distended by the exudation from their inner surfaces of a transparent fluid, of a reddish, of a green, or of a yellow colour, the minute foramina by which they had been originally emptied of their ova and granular fluid having become obstructed, either by the contraction on them of the pulpy structure of one variety (19 A), or by the elasticity of the other (19 B), and an appearance produced which, unless for the discovery of the capillary-sized openings by which they had been perforated, might have been mistaken for Graafian vesicles still undischarged, and having a deposit of granular matter covering their coats. (P. II., S. I., 4, 5; S. II., 2; S. VI., 8.)

27. A nippled or cumulated protuberance of the surface of the ovaries over a granular cyst; crateriform openings on the apices of the latter,

with vascular edges; and serrated "internal cicatrices," as they have been termed, traversing the interior of the cephaloid bodies; and blood-vessels ramifying on their granular matter, were not peculiar, as has been asserted, to the gravid female. (P. I., S. II.; P. II., S. VII. passim.)

28. Immediately on the arrest, and during the suspension, of menstruation, by pregnancy, lactation, disease, or old age, the Graafian vesicles were found less vascular, of greater tenuity, and of smaller size, than their normal structure in menstrual life, and to rise to the circumference of the glands, and to be eliminated by very superficial and capillary-sized punctulated lesions of the surface of the ovary, precisely as, during infancy and childhood, the linear or angular cicatrices of menstruation, becoming at the same time gradually filled up or erased. (P. I., S. III. IV. V.; P. II., S. I. II. III. IV. V. VI. VIII. passim, S. IX., 4.)

29. The coexistence of this modification of the ovisacs with the presence of cerebriform or of white bodies in the ovaries, was not peculiar to the gravid state, and could not, therefore, be relied on, unconditionally, as a proof of pregnancy (P. I., S. III., 2, 3; IV., 1, 3; V., 2); but its weight, as evidence of the earlier months of that condition, might be esteemed considerable when the corpora cephaloidea were large, massive, highly organized, and associated with similar bodies of a less perfect kind and smaller size, linear cicatrices, and other marks in the ovaries of recent menstruation, and, also, with the existence in the uterus of a deep mahogany-coloured stain, from the late adherence of the ovum (P. II., S. I., 4, 5, 6, 7). And the same estimate of its value, as a proof of a not distant parturition at the full term, was warrantable when the corpora albida were perfect; the mammæ, abdomen, and thighs, indented with lineæ albicantes; the uterus bulky, discoloured, and flaccid, its labia fissured, and the spermatic or hypogastric veins occupied by coagula. (P. II., S. II., 2, 4; S. III., 1, 4; S. V., 4, 5; S. VI., 4, 7.)

30. The obliteration of the cicatrices peculiar to menstruation, the presence of miliary ovisacs in the ovaries, and their appearance beneath the peritoneal coat as small copper-coloured spots, along with others of a yet more minute size, which had penetrated the substance of this membrane, and which did not require more than its thickness for their entire inclusion, together with the protrusion of some of these, often with extremely attenuated coats, in the form of very minute vesicles at the surface of the ovary, or along with puncta, or with a raw, blistered, or abraded appearance, occasioned by their recent rupture; and the existence at the same time, in either ovary, of a cerebriform body (19 B), having the granular matter exterior to the two inner layers of the ovisac, or of a mottled, yellowish red, or of a roseate coloured or red fibrous body (20), was a combination of circumstances which was met with exclusively during pregnancy, or within four months after delivery at the natural term. (P. II., S. I., 10; S. II., 1, 3, 5; S. III., 2; S. V., 1, 3.)

31. The changes in the character and mode of the production and discharge of the Graafian vesicles which follow suppressed menstruation, from whatever cause the latter proceeds, was not seen to occur earlier (P. I., S. II., 8; P. II., S. I., 5) than two months after the last menstrual flow; and previous to the expiry of this period, therefore, there were, in such cases at least as presented only the cephaloid bodies (19 A), no indications by which the fact of pregnancy could be determined (P. II., S. I., 1, 2) irrespective of the discovery of the ovum, and the greater organization of the deciduous fungiform villosities which are thrown out in the uterine cavity at every menstruation, and which, in such cases, suggest the idea of their being the rudimentary spiral arterial coils and horizontal sinuses of the membranous decidua.

32. In some cases of newly-established menstruation (P. I., S. II., 3), and also of amenorrhœa of short standing (P. I., S. IV., 1), an aggregate of phenomena was met with similar to that seen in the earlier months of gravidity, consisting of a diminution of the size of the ovarian follicles, the presence of well-developed cephaloid bodies, the remains of linear cicatrices, and a smooth appearance of the ovaries, studded, also, with copper-coloured macules, minute vesicles, and porous openings, and united, in the lately menstruating female, to a vascular, congested, and ecchymosed state of the

internal surface of the uterus; and in such cases, also, it is impossible to distinguish the state from that of those examples of early pregnancy (P. II., S. I., 2, 3, 5*a*, 6, 7), in which the corpora cephaloidea are of the construction (19. A) met with in the virgin ovary, except by a reference to the history of the individual, and the size and other conditions of the uterus.

33. While the compatibility of pregnancy with the presence in the ovaries of cephaloid bodies, having a delicate inner layer similar to that seen in the same bodies in the unimpregnated female, is undoubted (compare P. I., S. II., P. II., S. VII. with P. II., S. I.); the inner layer of ruptured ovisacs was sometimes found either (P. II., S. VII., 11, 12) in process of thickening, or (P. I., S. IV., 3, 6) already converted into a hard cyst, in circumstances where the appearance had no connexion with pregnancy; but on these occasions the hypertrophy of the inner layer was not accompanied by any deposition around it of granular or cerebriform matter; and in no instance was the union of hypertrophy of the inner coat of the discharged follicle, and the formation on it of cephaloid tissue, met with, whether the former was gathered up (P. II., S. I., 4, 5, 8, 11*b*) within the latter, as an insulated pellet or a thickened vesicle, or was extended out on it (P. II., S. I., 6*a*, 9, 10, 11*a*) as an open cavity, unless during utero-gestation, and that also frequently in its earlier months; while the latter months of the same condition, and a period of four months after natural parturition, although obtaining sometimes without such appearance, were uniformly indicated when a corpus rubrum was present (P. II., S. I., II., III., IV., V. passim), the red body so found being always a conversion of one or other of the varieties of corpora cephaloidea (19. A, and B).

34. The only special indication which distinguished the ovaries of lactating women delivered at longer periods than four months after the natural term, was the unusual prevalence in them, coexistently with the general characteristics already noted, of corpora albida, —a circumstance dependent, probably, as is also the diminished size and organization of the unruptured vesicles in the same cases, on the lowered vascular activity of the uterine system during lactation. Compare P. I., S. II., and P. II., S. VII., with P. II., S. VI. See also P. II., S. II., III., IV., V., for the fact of the predominance of white bodies generally in the lactating as compared with the menstrual state.

35. The ovarian condition which most resembles what is here stated as occurring during lactation is that met with in amenorrhœa from disease, and as this, whether temporary and occasional, or even protracted, may obtain, contrary to the opinion of some, along with a plump state of both glands, and a profusion of Graafian vesicles, some of them of good size, and, in recent cases, of considerable density, nothing absolute can be founded on the fact of white bodies being discovered in the ovaries, independently of the other circumstances of the case, beyond a mere probability that it may have been connected with the puerperal condition, a probability which may safely be believed, however, to increase with the number of these bodies, and with the freedom from atrophy of the uterus and its appendages (P. I., S. III., IV., V.; P. II., S. VIII. IX. passim).

36. Graafian follicles of some size were found in the ovaries for fifteen, and white bodies for twenty years after the critical age (P. I., S. V., 2; P. II., S. IX., 3*a*, 5), and the discharge of attenuated minute vesicles, apparently simple cells, from the surface of these glands, appeared to terminate only with life (P. II., S. IX.).

37. No relation was found to exist between the number of corpora albida discovered in the ovaries after death and that of the previous pregnancies; nor was there any specific distinction in the ovaries of women who had borne children as compared with those of females who had not been gravid.

38. Numerous examples of amenorrhœa in its varied forms as connected with slight functional indisposition, pregnancy, lactation, organic disease, and old age, were observed, in which the ovaries remained of good size, and even in some instances (P. II. S. VI. 10) were larger than natural. Passim.

39. Cases in which the ovaries were more or less crowded by well-developed Graafian vesicles coetaneously with the non-establishment of menstruation at puberty (P. I., S. I. 4, 6, 7, 8, 9, 10), and with its suspension by chlorosis (P. I., S. III. 1, 2, 3), and by pregnancy at

the sixth week (P. II. S. I. 2), at the third (idem, 4) month, at the fourth (idem, 6 ?) month, at the seventh (idem, 7, 8) month, and by lactation at the first (S. II. 1, 3), fourth (S. V. 1, 4), fifth (S. VI. 1), and sixth months (S. VI. 1, 2, 4), were noticed.

40. Instances of one or more menstruations taking place in succession in the same female, without the corresponding rupture of a Graafian follicle, were often seen (P. I., S. II., 2, 3, 5, 7, 9, S. III., 2, 3, P. II., S. VII., 1, 3, 4, 5, 6, 7, 9, 10, 11, 12); and in some cases (P. II., S. VII., 1, 7) it was demonstrable that, although the ovaries were occupied by very vascular and distended vesicles, and menstruation was normal, no lesion of a follicle had occurred even after several months; while in one woman (P. I., S. II., 1) no less than eight, and in another (idem, 2) the strong probability of at least three times that number of consecutive menstruations having elapsed without the occurrence of that kind of rupture said to be essential to menstruation, was capable of proof; while in a third (idem, 3) there were no more than five of the large cicatrices and other indications described by some as following every successive menstruation, to set against at least three years of the probable subsistence of this function; and in no case was it found that there was any approach to an accurate relation between the number of foramina or of cicatrices observed in the ovaries, and that of the presumed menstruations previously undergone by the woman.

41. The uterine appendages were not on every occasion found remarkably injected with blood during or near to the time of the catamenial flow, and with one exception, in which the mucus of the tubes was of a red colour, most probably from regurgitation of the effused blood of the uterine cavity, the ovaries and tubes were even less turgid, in the few cases of actually existent menstruation which are recorded, than on some other occasions (P. I., S. II., 2, P. II., S. VII., 1, 6).

42. In some of the cases of the present series, as in others recorded by different observers, the vagina was found very red and vascular during menstruation (P. II., S. VII., I.)

43. The miliary sized vesicles obtaining in the different forms of suppressed menstruation, instead of bursting, and being discharged when they reached the external surface of the ovary, which was the rule, were seen sometimes to traverse a portion of the broad ligament, and occasionally to become solidified in this situation (P. I., S, III. 3, S. IV. 3, 6, 7, P. II., S. II., 5, S. VIII., 1, 5, S. IX., 4, 5).

44. A similar extrusion of corpora albida from the ovary to the broad ligament was also met with (P. I., S. IV., 6), and in both classes of cases a slender pedicular connexion of the bodies with the ovaries was in a few instances observable (P. II., S. IX., 5).

45. In most of the examples of extruded vesicles here (43, 44) referred to, the Fallopian tubes were impervious (P. I., S. IV., 6, P. II., S. II., 5, S. VIII., 4, S. IX., 5), and in such cases the secretion by the ovaries of numerous transparent minute vesicles with fragile non-elastic coats, and the discharge of those, as appeared, into the abdomen, seemed to continue irrespective of the tubal obstruction*.

46. The Fallopian tubes of women at seventy years of age were found patent (P. II, S. IX., 6).

47. Ovisacs containing altered blood or having their coats dyed black (corpora nigra), or yellow (corpora lutea), may occur independently of menstruation, and were, exclusive of the effusion of lymph from the extremities of the tubes and the exterior of the ovaries, which appeared to have a similar origin, the only ovarian changes which could be suspected to have any

* This fact is illustrated by many of the cases already recorded, but in the following, which was omitted in its proper place, it is seen in connexion with the apparent persistence for a series of years without rupture of the vesicles peculiar to middle life (P. II., S. IX., 3: ——, above 60, the mother of a family). Both tubes impervious by adhesions of their fimbriated extremities, in which, and under the peritoneum covering the posterior aspect of the tubes, were numerous vascular vesicles, with dense elastic coats, and of about the size of coriander seed; their contents when punctured escaping with a slight gash. On the ovaries were noticed another description of vesicles, so small as scarcely to be observed without a magnifier, some of them still imbedded in the surface of the gland, like eyes, and others protruding beyond it nearly with their whole circumference. They were quite pale and transparent, and very thin and non-elastic in their texture, and adjoining some of them were slight indentations which appeared to proceed from the recent rupture of some of their number. Interior of glands contained two well-formed corpora albida, and consisted of a membranous pulp, covered with extremely small sized, transparent, vesicular points, or simple cells, similar to those on the surface.

connexion with venereal orgasm (P. I., S. I., 7, 9, S. IV., 4, 5, P. II., S. III., 4, S. IV., 1, 3, S. V., 1, 2, 3, S. VIII., 1, 4, 5).

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Illustrations of the Theory and Practice of Ventilation; with Remarks on Warming, Lighting, &c. By D. B. REID, M.D. F.R.S.E. &c. &c.

To judge of the way in which we are so commonly treated at our promiscuous assemblies, at our dinner and evening parties, &c., it might be imagined that the persuasion on the part of our host and hostess was, that whilst we could not live for three minutes without meat or drink, we could do very well for a couple of hours or so without air. As for the entertainment we receive in the rooms, halls, theatres, and other places of public meeting and resort, it is generally pretty obvious that neither meat nor drink, nor atmospheric air, is contemplated as among the things necessary to man's existence then and there. We do not know who had the honour of making the discovery, in these latter days, of the imperative necessity of air to the life of man; we remember, however, that the first book we read on the means of supplying so much of this vital fluid as might be necessary was that of Mr. Thomas Tredgold, a man who was highly prized by his friends, and whose early death was sincerely lamented by all who knew him. This work was on the Warming and Ventilating of Public Buildings; and we remember that the way in which the matter was handled impressed us very favourably in regard to Mr. Tredgold's abilities both as an engineer and a writer. The next tractate that we perused on the subject, which has always been a favourite one with us, was Dr. Neil Arnott's pamphlet, with very nearly the same title as Mr. Tredgold's. This, too, we recollect as pleasant reading; and the pamphlet must have found favour with the public; for a very few months after it appeared no copy was to be had for money in the shops: it has never been reprinted.

The excellent work of Dr. Reid, the title of which stands above, has but just appeared, to ease us of the regret we have always felt that there was no readily accessible and adequate means of information for the public upon the really momentous subject of ventilation. Dr. Reid's work supplies every thing that seemed most desirable; it is a comprehensive review of the entire subject, not only of ventilating, but also of warming and lighting, our houses and places of public assembly; and farther, and this is matter of great moment in many circumstances, of so constructing rooms, halls, &c, as that a speaker in one part shall be heard in every other part. The subjects of this work of course imply familiar acquaintance with natural philosophy and chemistry in order to their elucidation: in Dr. Reid they have met with more: a member of the medical profession, he is moreover an excellent physiologist, and farther shews himself conversant with one of the very highest branches of the art medical—hygieiné—the means necessary to the health and life of man, and their application; in one word, no one could have been found more competent to the task he has undertaken than Dr. Reid; none certainly could have performed his duty in better taste, or with a more comprehensive grasp of the entire subject.

After an introduction, in which Dr. Reid exposes the constitution of our atmosphere, and the chemistry of respiration, he places in brief but lucid review before us the vast amount of mischief that has befallen mankind from ignorance of the imperative necessity of having adequate supplies of fresh air. One man consuming ten cubic feet of air per minute, which he does, will have used, during a life of fifty years, nearly 900 tons of air! The inhabitants of London, taking them at two millions, use up 359,000,000 tons of air annually, or nearly one million of tons per diem! Suppose ten persons seated in a room twelve feet square every way, they would exhaust the air of the whole of its oxygen in about fifteen hours and a half; but as the air is poisonous to the lungs long before the whole of its vital element is consumed—as even the air that has been breathed once is no longer fit to be breathed again—in order to furnish

thirteen persons with ten cubic feet of air per minute, the atmosphere of the room would require to be completely changed every seventeen minutes, and such a change could not be effected by the ingress and egress of air flowing at the rate of one hundred feet per minute, through apertures of less than about one foot square. This will give the reader some idea of the supply of air that is necessary to healthful existence, and enable him to judge of the circumstances in which he is placed when he is shut up for a succession of hours in a small chamber, or even in a large one, with a number of other persons, and no means are taken to furnish him with the renovated atmosphere that is altogether necessary to respiration and the manifestation of vital phenomena; for that it is so, that his life hangs primarily on his respiration, is made manifest by the fact, that the supply of air interrupted for no longer an interval than three or four minutes, all vital manifestation ceases; the heart no longer beats, the brain no longer feels, nor wills, nor thinks—the man is dead; and he has sustained no injury; nothing has been added to, nothing has been subtracted from, his body; the ingress and egress of some ten or twelve cubical inches of air to and from his lungs have alone been interrupted, and this puts an end to him.

It is indeed high time that men should act as if they really believed a supply of fresh air necessary to them—an abstract or theoretical admission of the fact ought no longer to be received; let those who have houses to build, or who have the control of houses that are about to be built, look to it. Human life in the upper ranks of society, once the age of 20 is passed, is worth at least forty years' purchase; in the labouring class it is not worth thirty years; the difference is, in very considerable part at least, due to the different atmospheres which the rich and the poor man breathes habitually. In his second Chapter, Dr. Reid treats this part of his subject well and forcibly, and shows what room for improvement there is still in the dwellings of all classes of society. He shows upon what the *soporific* qualities of certain rooms depends—it is nothing but insufficient ventilation. No bad air escaping above the level of the fireplace, the upper part of such apartments is contaminated by perhaps four or six argand-burners, or some dozens of candles, to say nothing of the breath of the assembled company. "The dwellings of the extremely poor," again—and Dr. Reid's language here is so appropriate that we make it a duty to quote it—"present scenes of misery, desolation, and woe, which it is afflicting to witness, where the sensibilities are not hardened against the sufferings of humanity. They must be seen to be understood, and to draw out that amount of individual sympathy which they imperiously demand in a civilized and Christian community. The station of this country in arts, literature, and science, is acknowledged throughout the globe, as well as its naval, its military, and commercial power, and latterly its exertions against the slave-trade have given a noble example in the cause of humanity, and soften the recollections of former times. But the regeneration of its own population, or rather the placing of them in that condition which the progress of religion and philanthropy demands, is perhaps a task of more moral grandeur, and of still more difficult execution, than any other which it has attempted."

Here the Doctor gives a sketch of a room of one of the poorer classes of houses in Edinburgh, such "as he was in the habit of visiting when a student of medicine, 24 years ago."

"The sunk floor, soft, unpaved, and unequal, gave out a damp and unwholesome smell; the patients breathed an atmosphere loaded with smoke, except where proximity to the door and window produced local and offensive draughts, and the unhappy children were grouped around a wretched fire, where it was difficult to say whether they suffered more from hunger or cold. Three beds are not shewn in the sketch, that the general disposition of that which has been described may be better understood. At night or morning, from ten to twenty were usually around the fire; each family of four or five had a bed; and those who could not get a place in the bed rested wherever they could lie down. In another place, I have seen five beds occupied, each with one or more sick persons, and no one to attend to their wants, or those of the

infant children exposed in the midst of severe and appalling misery."

The *philosopher* and *naturalist*, it is obvious, are here run away with by the *man*, and we cite the passage as evidence of Dr. Reid's good and kindly heart—but philosophy and medicine have always a humanizing influence. The evil that existed twenty-four years ago, however, exists in unabated force at present, as we shall have occasion to show in our account of Dr. Alison's excellent pamphlet just published "On Fever as connected with Destitution."

Dr. Reid next takes us to the school-room and the church, and shows the ill effects of the vitiated atmospheres of such places—the pædagogue's efforts unavailing, the clergyman's earnestness all ineffectual, under the circumstances in which either is placed. But we cannot spare the space that were necessary to give anything like an adequate idea of the contents of this excellent work, or of elucidating the beautiful spirit in which the several subjects it embraces are discussed. Suffice it to say, that the Second Part is devoted to a consideration of the nature of ventilation, and the means by which it may be effected; Part III., to the mode of producing and communicating warmth, and of lighting; in Part IV., we find the practical application, to the ventilation of the houses of Parliament, of the principles inculcated in the preceding parts. Part V. is a kind of continuation of this 4th part, and embraces miscellaneous illustrations of ventilation; Part VI. considers the ventilation of ships, a very important matter; and Part VII. concludes the work by treating of the ventilation of mines.

Neither pains nor expense have been spared on the publication and illustration of this excellent volume, which, as pleasant and profitable reading, as containing matter that comes home to every man in one way or another, and is ever of vital importance—the whole treated in the very best taste, first, as matter of science, and then of enlightened philanthropy—ought to have a place in the library of every family, and to be made the subject of especial study with every enlightened member of the medical profession.

MEDICAL GAZETTE.

Friday, June 14, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE TRUE ENEMIES OF THE MEDICAL PROFESSION.

THERE is a very general feeling in the medical mind that the public are not disposed to estimate us at former high rates—to look upon the medical profession as of that weight and importance which it was once held to have in the community.

This feeling we think in the main well founded; and it seems not very difficult to show the causes out of which it has sprung. Sorry we are to be compelled to say, that we have ourselves to blame in very considerable part, both for the more slender respect in which we are severally held, and for the minor influence that is allowed us as a body. We have been too eager to discover the errors which all as individuals necessarily commit in the practice of a profession so difficult as that of medicine; and more than this—of far more moment than this—we have been of late years incessant in our efforts to expose these errors to the common gaze, to hold them up in their nakedness, and as sins emanating from the ignorance and incapacity of their authors; these being often the very polar stars of our profession. Now the public can form no estimate of the difficulties in the way of judging rightly in points of medicine; but they can all appreciate an error when it is laid open to them, and they are told that the inference ought to have been different from that which was drawn—the procedure other than that which was followed. It was thus that the seeds of suspicion of the very foremost men in all the land, in point of medical and surgical position, were

first sown; and it was no wonder that these seeds struck root, and by degrees grew up into lusty plants that now overshadow the whole profession. But these plants have proved very upas trees, and we, who of necessity remain under their shadow, have been the first victims of their poisonous breath.

We have lifted the veil, then, from the errors we severally commit, not for the purpose of striving among ourselves to avoid these errors for the future; we have not spoken of them as incident to our human frailty, as unavoidable in all likelihood, as appertaining to the state of science at the time—No; they have been sedulously upheld as the errors proceeding from the imbecility of Sir, or Mr., or Dr. this or that, as errors which might readily have been avoided—which ought to have been avoided—which, having been committed, were to take away all confidence in the discrimination and skill of the unfortunate practitioner who committed them in all time to come.

But if the public have the baronets, and knights, and learned doctors of the profession, the men at the very top of the metropolitan tree of practice, satisfactorily demonstrated asses to them, what confidence can they be expected to place in men of lower grade? The answer is obvious—None; and then they fling themselves into the arms of homœopathy or hydropathy, or any other opathy, or ology, or ism, that may chance to be in fashion, and that is yet without its quarterly, and monthly, and weekly publication, to expose the errors of its advocates and abettors! It has been well said, that men are, even at the present day, more ready to pay for astrology than astronomy; we of the regular profession, however, grounding our science on a study of the laws of life and nature at large, have long ago thrown away our cloaks and defensive armour; we stand upon our knowledge of and our trust in God's eternal laws for the good we may be permitted to do in our calling. Homœopathists and hydropathists, sellers of abracadabra and catholicons, cast God, and reason, and science, behind them, and come before the world in the triple mail of ignorance and presumption, with the cloak of deceit drawn over all,—and the public, utterly incompetent to appreciate us with our science, lend their ear to exaggerated promises and large pretensions: the astrologer is preferred to the astronomer.

Again, a gentleman high in rank among us, is held as not having paid that attention to his friend, taken suddenly and seriously ill, which the circumstances of the case seemed to require; forthwith the tale is blazoned abroad; like the stream as it flows, the story gathers aggravating characters as it spreads, and finally it is so black and damnatory, that, lumped together, the whole profession are concluded to be monsters utterly heartless and unprincipled. Or otherwise, and thus: Another gentleman, who has achieved a reputation for urbanity, for kindness of heart, and for surgical skill higher, and in so far as practical tact and extensive knowledge are concerned, deservedly higher, than was ever achieved by any man before, is brought into the bear-garden of a common law-court in England, and badgered and baited by one sharp-tongued lawyer after another; there he uses language figuratively, that is immediately construed and set down literally, and forthwith we are looked upon as butchers, wading to mere manual dexterity through the blood of our fellow creatures—reckless of the mutilations we practise, without a pang for the pain we inflict.—The heart sickens at all this; but the vulgar gape, and the gentle are confounded, and refuse to give us their hands, and so there is a mark set upon us, and all the good

we do, and have done—our sleepless nights, and anxious days, our generally honourable conduct, our self-sacrifice, our lives shortened in the cause of humanity—all go for nothing. It is thus that we have been blackened as a body, and every thing that could be done to make us infamous has been perpetrated.

Lastly, and strangely enough, the very character of "helper in time of suffering" has been turned against us. There is such a large admixture of charity in all the offices we render in serious cases, that the most selfish and greedy among medical men never think of their reward in the shape of money at the moment of giving their indispensable assistance; the younger member of the profession, in fact, holds himself open to calls upon his services without prospect of fee or reward. Now such is human nature, that service unpaid for is never estimated by the same high standard as that which is, as matter of course and of necessity, handsomely remunerated. Our humanity becomes our enemy; we are held cheap because we cannot as christian men wring money-reward from all and sundry who seek our assistance. The members of the other liberal professions, however, do not work for nothing. Where is the barrister who will undertake a cause without his fee? It may be that there is a poor wretch lying under suspicion that touches his life; if he have not the wherewithal to pay, there are not half a dozen advocates lying in wait, each more eager than the other, to take up his cause and clear him of his difficulties for God's sake. Where is the clergyman who will marry, or christen, or bury, any member of the community without his dues? Let the man be but poorly, or indisposed, however, and he may go or send to fifty places in the metropolis, and have not only the attendance of a physician or a surgeon of liberal education, but all necessary medicines, for the asking; or, being verily ill, or grievously wounded, he has but to get his friends to bear him to a palace, called an hospital, where he will not only be taken in and put to bed, but, if his injury be serious, he will have a surgeon of the highest experience summoned to his aid, whatever the hour of the day or night, and that surgeon will immediately go to his relief; and all this, strange to say, is done for nothing. In this way, appearing ourselves to attach no money value to our services, do the public come to think lightly of them, to look on them as something of little significance, when they are not wanted, as something they have a right to without further consideration, when they are required.

Let us, therefore, be cautious in exposing each other's errors, simply as such; we can always use them as means of instruction, without hanging up their authors in chains, as they used to hang up the Dutch, and Spanish, and Portuguese murderers and pirates, at Cuckold's Point, and other significant angles of the Thames—to be pointed at with the finger of detestation, indeed, by the whole Cockney world as it sailed past them to Gravesend, but with the effect of involving, in the Cockney mind, the entire Dutch, and Spanish, and Portuguese nations, in the guilt of these individuals. The Brothers of the Trinity House do not insist on sinking upon the spot the good ship that has discovered a sunken rock or a shoal, as a warning to other navigators; they rather reward the master, and set up a beacon or a light-house as an indication of the danger. So should we use one another in medicine. The valuable means of communication and instruction we possess, in our hebdomadal publications especially, ought to be held as means sacred to the diffusion of new facts, new views, and of knitting the

bonds of good understanding, not only between all classes of the profession, but between the profession and the public at large.

THE ST. MARYLEBONE VESTRY

AND THEIR GRATUITOUS MEDICAL OFFICERS.

We had hardly penned what precedes, when we were informed of a piece of conduct on the part of the Vestry of St. Marylebone, which admirably illustrates some of the topics we have touched upon. The Vestry, it seems, in its wisdom and economy, conceived that the Infirmary of their parish workhouse was a source of greater expense than it needed to be; that the sick poor cost a great deal of money—more than they were worth, in short; and then the benevolent Vestry set to work to see where the causes of the expenditure lay. These they succeeded in tracing—will it be believed?—to the unpaid physicians and surgeons of the St. Marylebone Infirmary! These gentlemen, said the worthies composing the Vestry, order many very expensive medicines, which are altogether unnecessary for the poor; they, besides, indulge their patients with a diet that is far too good for them, and run us into endless expense for articles which, though they may be in ordinary use for the sick, they are the sick *rich*, not the sick *poor*, who are so indulged. These our gratuitous physicians and surgeons, said they, farther, are men of some pretence, and have extravagant notions; we do not care to have men of liberal education, gentlemen, Fellows of the College of Physicians and College of Surgeons, for attendants on *our* sick poor; we could do very well with a Licentiate of Apothecaries' Company, for that matter; and him, as he is paid by us, we could compel to order salts and senna for all physic, and the ordinary gruel, and soup, and small beer of the workhouse, for all diet, to the saving of at least twenty pounds per annum to our small parish of no more than 150 thousand souls.—And so these learned Thebans—Snout the bellows-maker, Bottom the weaver, Peter Quince, and the rest of them, in conclave assembled—actually passed a resolution to the effect that the services of the physicians and surgeons of the St. Marylebone Infirmary, although gratuitous, were unnecessary; that the house-surgeon was in himself sufficient to attend all the sick in the Infirmary (they never amount to more than a couple of hundreds or so); and that notification should be given to Drs. Clendinning, and Mayo, and Harrison, and to Messrs. Stafford and Phillips, that their farther services would be dispensed with. This resolution was passed with little or no opposition, and actually stood in force for a week; it only waited for confirmation at the next meeting to be acted on, when all our worthy brethren would have found themselves sent to the right about, with a handsome kick in a certain part that shall be nameless into the bargain, and by way of recompense for their long years of service to the sick-poor of St. Marylebone. Our brethren, however, though they might not have cared much about being relieved of a very laborious duty, did not choose to submit to the indignity which, as they construed it, was attempted to be put upon them; and so, mustering a party in opposition to that of Snout and Co., the resolution was not confirmed, and they remain in office.

It seems that the Vestry of Marylebone parish are extremely anxious to escape the hands of the Poor-Law Commission, which they hope to do by keeping above all things the expenses down to a minimum. We beg Mr. Chadwick to have an eye upon these economists. They mistake the purpose and disposition both of the Commission and its excellent Secretary, if they suppose that they will escape by stinting the sick especially, and the poor under their protection (screw ?) of needful articles of food and medicine. Look after these philanthropists, Mr. Chadwick, we beseech you!

REGULATION OF THE MEDICAL PROFESSION BILL.

THE ANATOMY ACT.

We are sick of expectation about this bill. Again and again it has stood on the list of parliamentary notices, and again and again it has been put off. It stood for the 30th ultimo, for the 4th inst., and for last night, the 11th; and on each and every occasion it has been deferred. The session is getting far spent, and, we presume, we may now begin to look

for the measure *next year*. Yet Sir James Graham should know that the numerous and highly respectable medical profession are waiting anxiously for his long promised measure, and that to propound and bring it forward would be esteemed a great boon from Land's End to John o' Groat's. Where there is private interest to serve, the motive to action is obviously of a far more powerful nature than that which is *merely* public.

On the evening of the 11th, for example, Mr. Borthwick made occasion to enter into, and the House found leisure to listen to, a most wanton attack upon the Anatomy Act, in which he gave full scope to that vulgar love of the horrible and disgusting which we always see associated with ignorance and the purpose of making out a strong case. The purpose by and by appeared: it was to force a Mr. Roberts down the throats of the ministry as the discoverer (discoverer!) of a means of preserving dead bodies sweet and fit for dissection for any length of time, implying the possibility, too, of a single body or so being thereby made to suffice an entire school for the whole of a winter session. Would processes of embalming or pickling suffice us, we are altogether independent of Mr. Roberts. What can he tell us that we do not know already? We can readily preserve a body sweet for several weeks by more than one process, the details of which are familiarly known. But all the preservation and pickling of subjects in the world is useless. The student must have opportunities of examining again and again the parts of the human body in their *most natural state;* and in the progress of his examination of the fabric he necessarily separates the pieces which compose it. What is the primitive and accepted signification of the word anatomy?—ανατεμνειν—to separate into constituent parts.

There are good points about Mr. Borthwick's speech, nevertheless; had he not had Mr. Roberts behind, at the bottom of his bag, he would have done very well. He assumed it as absolutely necessary to the education of medical men that the practice of anatomy should be liberally carried on; and this being so, that there should be every means taken to secure an ample number of dead bodies. Let him set his face against Mr. Roberts and his like, who for selfish ends, and to make their *discoveries (!)* available, begin by doing all the mischief in their power. It seems that this person has been agitating against the anatomy act for several seasons past, and that he has actually been the cause wherefore more than one parish and union have refused to assist in making that excellent provision effectual, thereby throwing the teacher and student back upon the degrading and horrible practice of disinterment. And this man comes before parliament and the country seeking reward! The inspectors of anatomy should have the statements made by Sir James Graham and Lord John Russell printed; and they should circulate them to the members of the vestries and guardians of unions along with every application for assistance in connection with anatomy.

We are far from advocating inattention to the feelings and even the fancies of the public in regard to the disposal of the dead. All we know is, that nature treats a dead body with very little ceremony. A few days, often a few hours, and all that was beautiful and loveable in life is a mass from which sense shrinks, too horrible to be contemplated, too noisome to be retained in the eye of day, and that must be burned, or buried, or sunk in the sea fathoms deep, in order that it may not become the cause of pestilence among the living. And if a student do prepare the bones of a member he has been studying, we cannot for our lives see any great harm in the act: he but delays for an indefinite number of years the decomposition that would have been accomplished in a limited time. As we advance in science we seem to see that we are even in some sort bound in conscience to restore, for the use of our successors, the materials which have been stored up in the bodies that have served us during our lives. There is a perpetual round in nature; nothing is lost; decomposition has re-construction as its consequence; death has renewed life; all is harmonious, all is perfect.

THE MODEST AUTHOR.

To the Editor of the Medical Gazette.

Sir,

The following seems to me too good to be left quietly in the pages of your

contemporary: let me help you to a transcript of it, and a short commentary:—

"I would refer those who wish to prosecute this subject to my work on the Diseases and Derangements of the Nervous System, but especially to my New Memoir, which contains the most lucid and recent view of the whole subject of the physiology and pathology of the true spinal system, and plates which, for skill in the draughtsman (Mr. Simpson, of Stamford), both that of the artist and that of the physician, and for interest in a practical point of view, have not been surpassed. Each plate evolves a principle of physiology or pathology of great interest and value."—*Extract from Practical Observations and Suggestions.* By MARSHALL HALL, M.D. F.R.S. &c.—*The Lancet*, May 18, 1844.

Now, my dear Mr. Editor, I think you will agree with me in saying that you have met with little, whether in matter or manner, that surpasses this. The dullest sense cannot fail to be penetrated by the beautiful modesty of the author, who, in speaking of himself and his own labours, refers those who wish to prosecute a subject, to his works, as containing most lucid views of the whole matter. I wonder that the word "prosecute" was made use of here. Prosecute means to pursue, to follow out, the party's own ingenuity serving him for something. "To learn," or "to be informed upon," would have been the proper term or phrase; for where a subject matter is most lucidly exposed, *i. e.* exhausted, we can only be referred for information as learners to a particular source—just as cattle are referred to a trough when we would have them drink. Referred we are, however, to the "New Memoir" especially, which, as said, "contains the most lucid and recent view of the whole subject of the physiology and pathology of the true spinal system, and plates which, for skill in the draughtsman (Mr. Simpson, of Stamford), both that of the artist and that of the physician, and for interest in a practical point of view, have not been surpassed." I pass by the reiterated proofs of modesty here, to concentrate your admiration upon the style—the New Memoir, which contains the lucid views, and the plates which, for skill in the draughtsman (Mr. Simpson, of Stamford), both that of the artist and that of the physician, and for practical interest, have not been surpassed! I thought I had a glimpse of Dr. Marshall Hall's meaning here before I set his words down for the second or third time; but on looking at them again I own myself foiled—"Skill in the draughtsman (Mr. Simpson, of Stamford), both that of the artist and that of the physician."—Is it that the skill of the draughtsman is Mr. Simpson's, and the skill of the physician is Dr. Hall's? or is it that the combined skill of the artist and physician is Mr. Simpson's? This would be giving too much to Mr. Simpson, who besides is no physician; and further, Mr. Simpson, the draughtsman, is distinctly indicated. So I must needs conclude that it is the physician, Dr. M. Hall, who exhibits his skill in these unsurpassed plates. But next, I am gravelled with a physician exhibiting his skill upon a plate: "How does you do it, Sairey Gamp, says Mrs. Harris?" Favente Minerva, I think I have it: we have all heard of a clown at a fair exhibiting his skill by dancing a hornpipe upon a "trencher;" and a trencher is a plate. Can it be that Dr. Marshall Hall has been manifesting himself in any new professional walk? Has the Doctor been seen at any of the recent meetings at Epsom or at Ascot? Let us try again—"Skill in the draughtsman, both that of the artist and that of the physician!" Has Dr. Marshall Hall been taking lessons in dry point? and is the skill he exhibits that of the engraver? The difficulty I have here is, that the physician would then be merged in the mechanic, and there would still be no room for the combination I have invoked to help me in my dilemma. I can make nothing of this point, then, and so proceed to another. "Each plate evolves a principle." Well done the plate, say I! the next plate which Dr. Marshall Hall tries his skill upon will be engendering its like at the least. If a copper or a steel plate, or the imprint from either, can "evolve a principle," I see no difficulty in the way of its begetting a young plate,—do you?

I am yours always,

S. T.

London, June 1844.

[We have the above from an old correspondent; did we see it as likely to be offensive to Dr. M. Hall we should

not insert it. As a *jeu de mots* we believe he will do what we have done—laugh.—Ed. Gaz.]

CASE OF INFLAMMATION OF THE SPINAL MARROW.

By Dr. Bermann, of Coblenz.

A man, of 56 years, in the habitual enjoyment of good health, began, without assignable reason, to complain of pain in his left hand, which was much swollen, particularly on the back, as well as the fingers and the wrist, but without any change in the natural colour of the skin; slight pressure occasioned severe pain. No general symptoms; appetite excellent. The repeated application of leeches, and of the blue ointment, soon dissipated the pain. A few days afterwards pain was severely felt in the left arm and shoulder, from whence it extended to the back; and now a general stiffness of the whole body began to be experienced; the patient could only lie down upon his back, and every movement was accompanied with the greatest suffering, referred to the back. By degrees the patient lost the power of moving his arms, and soon the same mobility extended to the legs, which by and by lost all sensibility; they could be pricked with a pin without the patient feeling anything. The lower extremities were also seized with convulsive twitches from time to time, and these were accompanied with severe pain. The fæces were passed involuntarily; the bladder had to be emptied by means of the catheter. Pain of a severe burning description was referred to the back. Gradually the body became bent backwards; opisthotonos supervened. During the last three days the brain was also affected; the patient became delirious, and then comatose. The whole disease lasted from the 15th of January to the 5th of February. In the course of the very first days, *decubitus*—we presume excoriations—began to take place, and soon proved very destructive. The treatment consisted in general and local blood-letting, free inunction of the blue ointment into the back, cold douches to the spine, calomel internally at first, and then tart. of antimony in large doses.

Necropsy.—The sinuses of the brain much congested, as also the blood-vessels of the meninges generally; lateral ventricles containing a great deal of clear water. The cut surface of the cerebellum showed numerous bloody points; its natural surface covered with a layer of lymph, which extended downwards over the medulla oblongata. *Spinal canal.*—The cervical portion of the cord healthy; from the thoracic portion to the half of the cauda equina a considerable quantity of fluid was observed, in which many flocculi floated, and which resembled albumen. The greater part of the lumbar spinal marrow was morbidly softened, and the dura mater corresponding to this softened portion was of a dusky red, and thicker than natural. The left brachial plexus was preternaturally red; the corresponding part on the other side could not be examined, through failure of the light.

SCHÖNLEIN AND DR. GÜTERBOCK.

"I took the simple way of coming to a conclusion in regard to this distinguished man (Dr. Schönlein, not Dr. Güterbock), and went to Berlin in July 1842." . . . . "Güterbock's sketches are anything but Schönlein's living lectures; they are hastily-sketched outlines upon the spot, worked up at home from memory and the hospital tables. They are not taken in short-hand, but Herr Dr. G., generally perched high in the air upon the back of a chair, sets down short notes, without paying much attention to the patient, choosing from among the symptoms enumerated by Schönlein those that strike him as most important, and those observations of the physician which he esteems as particularly original and piquant. . . They are nowise to be taken as official documents, and means of judging of Schönlein and his clinical communications.—*Dr. H. E. Richter, in Schmidt's Jahrbücher*, Vol. vi. 1844, p. 379.

PHYSICIANS PRACTISING GENERALLY.

To the Editor of the Medical Gazette.

Sir,

I am anxious to be informed, through the medium of the "Medical Gazette," whether those gentlemen possessing the degree of M.D. from the London University, but who practise all the branches of the profession, take parishes, and send out medicines, are to be considered as physicians? And further, whether it is usual, and professionally right, for general practitioners to meet them in cases of consultation purely as such?

Your early observations upon these particulars, will much oblige, sir,

Yours most obediently,

A General Practitioner, and
An Old Subscriber.

Wycombe, May 27th, 1844.

[We are of opinion that there can be but one answer to our correspondent's queries. He who practises all the branches of the profession, who takes parishes, and sends out physic, is, to all intents and purposes, a general practitioner; and has no claim to

take the precedence which has by common consent been accorded to the physician, whatever the title or appellative he may have prefixed to his name. The general practitioner should meet such a man as a general practitioner, not as a physician.

We apprehend, on the other hand, that there is nothing to prevent the possessor of the degree of M.D. from the University of London, from practising generally, provided he be only qualified to do so by having a license from Apothecaries' Company, &c.—Ed. Gaz.]

THE MEDICAL MUTUAL LIFE ASSURANCE SOCIETY.

To the Editor of the Medical Gazette.

Sir,

A friend has just put into my hands a prospectus of "*The Medical Mutual Life Assurance Society,*" in which it is stated that I am a member of the Provisional Committee; and that applications for prospectuses and shares may be made to the "*Provisional Committee,* 28, *Essex Street, Strand.*"

I beg to state that I am totally unacquainted with both the Society and its promoters, and that my name has been most unwarrantably used. Until this morning I was unaware that such a Society existed.

My neighbour, Mr. A. M. Randall, whose name is also placed among the Provisional Committee, has requested me, on his behalf, to disclaim all knowledge of, and connection with, the Society.—I am, sir,

Your obedient servant,

Jonathan Pereira.

47, Finsbury Square,
June 13, 1844.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Gentlemen admitted Members, May 31.—J. J. Renwick.—T. Shaw.—C. Martin.—J. T. Carr.—E. Gibson.—J. Allison.—T. W. Christie.—T. Cahalan.—A. Clark.—J. Bryson.—W. L. Dickinson.—H. S. R. Pearce.

June 3.—R. E. Ellis.—J. Hardwick.—R. E. Semper.—J. G. Defrier.—J. L. Williams.—J. M'Cullock.—C. Brookes.—W. Cholmeley.—E. Crichmay.

APOTHECARIES' HALL.

Gentlemen who have obtained certificates, June 6.—A. W. Owen, Atridge, Essex.—J. Briscoe, Crew Green, Montgomeryshire.—E. Petch, Atherstone, Warwickshire.—J. Hardwicke, Dublin.—W. Tredwen, Radstow, Cornwall.—G. E. Walsh, Dublin.—F. Manning, Dedham near Colchester, Essex.—T. B. Keetley, Great Grimsby, Lincolnshire.

BOOKS RECEIVED FOR REVIEW.

Vox Clamantis. Members *versus* Fellows at the Royal College of Surgeons; or, Common Sense applied to Medical Reform. By a Retired Practitioner.

Observations on the Epidemic Fever of 1843, in Scotland, and its connection with the Destitute Condition of the Poor. By W. Pulteney Alison, M.D. &c. &c.

The Transactions of the Provincial Medical and Surgical Association, Vol. xii.

TO CORRESPONDENTS.

M. R., of Sunderland, should try another of the respectable medical practitioners of his town. We do not give professional advice to individuals in our editorial capacity, and through the pages of our journal.

Dr. S. surely cannot expect us to insert a *criticism* of a *criticism*, nearly as long as the article that has put his pen in motion. We recommend him to get the book, and read and study it for himself; it will well repay his pains.

We are asked by a correspondent what the subject of the next Harveian Prize Essay is. Can any one answer the query?

MORTALITY of the METROPOLIS.

Deaths from all causes registered in the week ending Saturday, June 1.

Dropsy, Cancer, Diseases of Uncertain Seat	88
Diseases of the Brain, Nerves, and Senses..	148
Diseases of Lungs and Organs of Respiration	246
Diseases of the Heart and Blood-vessels	33
Diseases of Stomach, Organs of Digestion,&c.	74
Diseases of the Kidneys, &c.....	6
Childbed	4
Paramenia.....	0
Ovarian Dropsy	1
Disease of Uterus, &c.	0
Arthritis	0
Rheumatism	4
Diseases of Joints, &c.	3
Carbuncle	0
Phlegmon	0
Ulcer	1
Fistula	0
Diseases of Skin, &c.	0
Old Age or Natural Decay.....	60
Deaths by Violence, Privation, &c.....	31
Small Pox	31
Measles	14
Scarlatina	63
Hooping Cough	20
Croup	8
Thrush	4
Diarrhœa	7
Dysentery	0
Cholera	1
Influenza.....	0
Ague.....	0
Remittent Fever	0
Typhus	32
Erysipelas	5
Syphilis	1
Hydrophobia	0
Causes not specified	0
Deaths from all Causes	885

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JUNE 21, 1844.

ON CANCER,

AND

DISEASES RESEMBLING CANCER:

The Substance of a Clinical Lecture given at St. George's Hospital, May 28th, 1844.

By Cæsar Hawkins, Esq.
Surgeon to St. George's Hospital.

1. *On Cancer of the Face.*
2. *On Cancer of the Breast.*
3. *On Cancer of the Tongue.*
4. *Diseases resembling Cancer of the tongue: a. Irritable Ulcers of the Tongue; b. Syphilitic Ulcers of the Tongue; c. Psoriasis, or Fissured Ulcers of the Tongue; d. Carbuncular Abscesses in the Tongue; e. Globular Tumor, or Scrofulous Abscess of the Tongue; f. Common Abscess of the Tongue.*

On the Operations for Cancer of the Tongue.

As you have lately had several cases of malignant disease of different parts of the body under your observation, I propose to make some of these cases the subject of consideration in to-day's lecture.

1. And first I will read to you the case of a woman, Susan Wainwright, æt. 50, who was admitted on the 14th of May, with cancerous ulceration of somewhat more than the size of a shilling on the left cheek, which began on a congenital mole about a year ago, on which something like a wart then appeared, and ulcerated about five months back; to this she says caustic was applied in the shape of a plaster, but the disease soon recommenced. It now presents the appearance of an elevated irregular ulcer, with a hard tuberculated margin, discharging slightly from its surface, the discharge being rather fœtid; the dark colour of the original mole is still perceptible in its circumference, which is elevated about a quarter of an inch. The skin around the ulcer is very hard, and rather red; the hardness extends to some depth, and there are some six or eight small tubercles at the lower part just below the ulcer; these have existed about one month, and came after the caustic was applied; they are scattered an inch downwards towards the chin, and a little more than this in width; they are elevated, and whitish, and the skin covering them is very thin. Latterly there has been darting pain about the part; there is no gland enlarged in the neck, or elsewhere; she has no cough or perspiration; and the general health is said to be good, except that she has got thinner lately, and looks anxious; the tongue is clean, and the pulse rather full.

Now you have here an example of a form of malignant disease of the skin of the face; and the first thing which will strike you is that it has originated in a congenital mole. Nor is it at all uncommon for a congenital disease to undergo a change of this kind; you will remember, not long since, an example of it in a foreigner, who had a medullary tumor of the arm, in the place of a congenital nævus. There can be little doubt, too, I think, that any morbid growth may make a person more likely to have a cancerous tumor developed than another will be who has no unnatural formation of any kind; the cancerous diathesis existing, the new structure determines its local appearance at an earlier period; and for the same reason it is, for a time, more likely to be only local, than when cancer shews itself in the natural tissues. Secondly, you will observe, in this history, that an unsuccessful attempt has been made to destroy the disease by caustic, and the consequence has been probably an aggravation of the malady; it quickly returned, of larger size and more rapid growth, and with several new tumors around it; and such is generally the result of meddling with malignant diseases, either by the knife or caustic, without complete eradication of the morbid growth.

In the next place, as to the nature of the

malignant structure: the skin of the face is chiefly liable to scirrhous deposit, and that in three different forms; one of them is a superficial cancerous ulcer, of a low degree of malignancy, of which you will find an account in a clinical lecture of mine which has been published in the 29th volume of the MEDICAL GAZETTE; a second form is a fungous kind of scirrhus, of which I wrote an account which you will find in the 21st volume of the Medico-Chirurgical Transactions; and the third is ordinary schirrhus of the skin. The present tumor is not, however, any one of these forms of disease, nor yet is it a medullary tumor of the common kind; but it is something intermediate, as it were, between schirrhus and medullary disease, which, as you know, are easily traceable into each other, each proceeding gradually from well-marked cases of either species. Moles, and other previous new formations, when they become malignant, are usually of this intermediate kind; and the secondary tubercles are also of a different kind; instead of the flat, hard, tubercle, of the colour of the cutis, and like it in density, such as you can see in this preparation, the tubercles are, as here, more elevated, softer, yellowish in colour, with a thin covering of nearly transparent cutis, and a small base.

Believing its nature, then, to be of this kind, the result of treatment was more uncertain than in either of the varieties of scirrhus, particularly as secondary tubercles had already formed, and it was evident that much of the cellular tissue, and a considerable extent of the skin and subjacent structure, were affected, and the growth was rapid. Still, however, I was unwilling to leave the patient to her fate without one effort to destroy the malignant structure, in the absence of any distinct sign of constitutional taint, or of absorption. Malignant diseases must, if possible, be entirely eradicated either by the knife or by caustic, and each method has certain advantages and disadvantages: excision is perhaps more likely to be followed by foul secretion and secondary abscess, and the caustic is more apt to occasion erysipelas. As, however, so large an extent of the skin was diseased, I thought its destruction by caustic, though more painful than the use of the knife, would, on the whole, be the best mode in this patient, and the chloride of zinc is the kind of caustic which I generally employ, as a very effectual one, without danger of absorption, as with arsenic, and one which, applied to even part of a cancerous disease, will generally leave the rest, for a time, in a more healthy condition. Chloride of zinc was, when first proposed, mixed with flour; but as it is a deliquescent salt, I prefer adding sulphate of lime, which has been recommended by Mr. Ure; and you may mix them in equal parts, or with a third of the chloride, according to the strength you wish it to be, *i. e.* according to the thickness of the parts you mean to destroy. Mixing this powder with an ivory spatula, that you may not decompose it, with a few drops of water, into a thick paste, you spread it on a piece of lint, proportioning the thickness of the paste to the depth of the part to be acted on; you may thus, if the paste is pretty hard, and there is not much bleeding or discharge, have very little running from deliquescence. The nurse was directed to watch its action, and apply a little carbonate of soda if any liquid oozed out. There is much pain from this caustic for some time, so that I ordered a dose of laudanum. In a day or two a poultice assists the separation of the slough; the swelling is generally considerable around it, and sometimes there is a good deal of fever. Where the thickness of skin is considerable, it may first be partly destroyed, as I did here, by kali purum, to lessen the most painful part of the action of the caustic; and you must look carefully to the surface, when the slough separates, to see that no morbid growth remains, and apply a fresh layer of the same caustic, or apply some other caustic—the strong nitric acid; or a caustic which the French are fond of—a solution of about half a drachm of nitrate of mercury in three drachms of nitric acid—till you are sure no part remains.

The result of the application I look upon as very doubtful, since the cellular tissue is much diseased; we must expect a great hole to be formed in the cheek, leaving much deformity; and perhaps the mouth will be drawn to the other side, as it is to an extraordinary degree in a gentleman I am attending, with Mr. Keate, for similar ulceration, by destruction of some of the branches of the portio dura; very probably also there will be a salivary fistula, from the duct being opened. The latter circumstance may, however, be remedied, in all probability, as it was in the patient from whom this cancerous tumor was excised with nearly an inch of the parotid duct, and with complete success for some years at least: a new duct may be established by perforation of the cheek, if necessary, and the use of a seton to keep it open for a time, and of course it matters little in what part of the mouth the saliva enters. I may observe, in conclusion, that for the few days we watched the disease, before I had made up my mind on the most eligible mode of proceeding, I used a lotion of prussic acid, which is very useful in malignant ulcers, and our notes accordingly remark that she experienced relief from its employment. [The slough has since separated, and the surface is healing, and looks sound.]

2. The next case I will bring before you

is one of cancer of the breast. The patient is Sarah Watson, æt. 44, who was admitted on the 15th of this month, with scirrhous tumor above the right breast, the gland itself not seeming to be affected, or at any rate not much, as it is not hardened. She says it came from a blow on the breast, between two or three years ago, and the tumor was perceived about six months afterwards; about sixteen months ago it became attached to the skin, and shortly afterwards it ulcerated. The nipple is not tucked in, nor the skin affected over it; but the tumor itself is very hard, and the skin much puckered towards the central ulcer, and it is attached to the muscle beneath: it gives her a great deal of shooting pain at times, and two or three glands in the axilla are hardened and enlarged. The patient looks old, and feeble, and out of health, with short breath, and cough in the morning, and there is dulness of both lungs. She was confined fourteen months ago, and suckled her child till a week ago.

Here, then, is an example of malignant disease of the breast of the scirrhous form, and you perceive that the patient attributes its occurrence to an accident, a blow, six months before the tumor was perceived, and such is often the case; partly, perhaps, because every one likes to find a cause for their maladies, but in many cases, no doubt, because a blow or other accident really produces cancer in the injured part: it occasions its earlier appearance than might otherwise be the case in persons predisposed to the disease, acting in this respect just like the mole in the former case. In the next place we find that this woman had been confined since the tumor ulcerated, and has suckled her child with the other breast till a week before her admission. Now it is a common opinion that cancer of the breast is more common in unmarried females, and in those who have not had children, than in women who have borne them; but I must confess that I do not think thereis any ground for this doctrine, for I have repeatedly seen cancer of the breast, or of the uterus, in persons who were at that very time suckling or becoming pregnant, and in a great number of married people: there are so many more married than unmarried females, that cancer ought to be more often seen in the former, but I suspect it is not only so, but frequent enough in married women to make the proportion of cases equal in both states.

The case before us appears to me to be not at all adapted for operation, and that for several reasons: first, the tumor is separate from the breast, situated, that is, on its outer part, and only becoming adherent to it as the disease advances; it is hard and dense, and contracted, and such a tumor is always more slow in its progress than when cancerous matter is infiltrated in its tissue so as to affect the whole breast. You may contrast the appearance in these two preparations. If, then, the object be to remove the whole disease, such a tumor is on the whole favourable for operation; but if, on the other hand, circumstances render the entire eradication of the diseased structure impossible, the slow growth of this form of disease makes the operation inexpedient: this is the case here, and therefore we are not called on to meddle with the tumor itself, which may be sometimes advisable, even when a perfect cure cannot be looked for, in order to make the sufferings of the patient less. Secondly, ulceration has here taken place; the skin is drawn in, and altered in texture, and although the nipple is at some distance, and not at all retracted, yet probably the cellular tissue and skin are so much affected, that a return of the disease in the part itself would not be unlikely if the tumor was removed, and a painful operation would have been undergone for nothing. The disease, however, has gone further than this; one or two of the glands in the axilla are enlarged, and so hard that their enlargement is not from irritation only, but must arise from some poisonous matter in their structure. The glands in the axilla are very often enlarged in cases of cancer, without ulcerating, so that if the tumor of the breast is in a very bad state, it may with much advantage be removed in some cases, although the diseased glands are left: we have seen, however, that the local state does not here indicate an operation, and therefore the contamination of the glands is an additional reason against it. But then, in the next place, our patient is thin, and of a naturally spare habit: now this also is a circumstance to be considered in reference to the question of operation, in many cases of cancer of the breast: there can be no doubt, I think, that the progress of the tumor is much slower, and it is less likely to bleed from fungous granulations, in a thin person, than in a fat and bloated one; it is very probable that the kind of tumor seen in a given case is much influenced by the natural temperament, and hence, perhaps, it is that the small contracted stone-like tumor is generally seen in those who are of spare habit, like our present patient, while the large voluminous tumor is as commonly found in stout persons, whose circulation is, nevertheless, feeble and weak, so that an operation is more dangerous in them than in thin persons, independent of the larger wound required, although the more rapid growth of the large mass would make its removal more desirable, if it were not for this reason. But in the next place our patient has a cough, and dulness of the lungs, and cannot easily lie on her left side, and therefore although it may be only bronchitis that she is suffering from, yet there may be some commencement of that state of chest from

which so many die who have a cancerous tumor of the breast: there is no reason to think, indeed, that there is water within the pleura, which is often the case, nor is there apparently more disease on the same side as the tumor, yet there may be some beginning of tuberculation of the pleura, or of cancerous deposits in the lungs, which are very difficult to discover in an early stage, unless it be by slight dulness on percussion, as there is a free entrance for the air between the tubercles, and little increase of vascularity for some time after they have begun to form. Finally, our notes say that she looks old and feeble, and her complexion is very unhealthy. A good deal is said of the peculiar look of a person in whom the whole system is under the influence of cancerous disease; a sallow or leaden colour, and sunk expression, are expected, as evidence of the disease being no longer local: I cannot say, however, that this is at all universally true; sometimes, no doubt, you cannot hesitate in saying that a patient with a certain appearance of countenance does in all probability labour under a cancerous cachexia, but the appearance is easily simulated by other diseases; I think, for example, you would hardly distinguish, in many cases, from her looks alone, whether a woman was dying of cancerous disease of the uterus, or was simply exhausted and drained of blood by a polypus of this organ. It is therefore not at all improbable that this woman's emaciated and weak condition may arise, not from absorption of cancerous matter into the blood, but from fourteen months suckling, with, perhaps, very scanty food.

As, then, from the various reasons I have alluded to, it would have been wrong to operate in this case, I have yet kept her in the hospital to see how much of her appearance, and of her suffering too, depends on the cause I have last mentioned, and you will observe whether she improves under good diet and the use of sarsaparilla, which I have put her upon the use of. Even if there be real cancerous cachexia, the same plan of treatment will still be the proper one, and it will much retard the progress of the disease in the system, and check the growth of the morbid deposits. There cannot be a greater mistake than to reduce a person labouring under cancer by low diet and leeches, which are often employed in order to relieve pain by checking inflammation.

A case was under my care many years ago which very clearly proved this point: a young woman, who was suckling, like our present patient, came to me with a cancerous tumor of the breast at the early age of 29, which was unfit for operation, and after a little while she was induced, as being more convenient from the situation of her home, to attend as an out-patient of another hospital, where she was lowered and had leeches repeatedly applied: she came again to me after a few weeks, suffering dreadfully from increased pain, and looking as if she was rapidly sinking, and so she would have done, if this plan had been continued: I put her, however, on a better regimen, and gave her sarsaparilla, as we are doing for this case before us, and the result was that she soon got stout and well comparatively, and hardly experienced any pain in the tumor, and her life was obviously prolonged for more than a year by the difference of treatment. Support your patients, then, but yet avoid stimulating them too much, for this is equally injurious.

[The woman has very much improved since the 28th of May, when this lecture was given, and has a comparatively cheerful aspect, with much less pain, and has gained flesh considerably, and nearly lost her cough.]

3. A third example of cancerous disease was shown you in the case of Richard Crandley, æt. 45, who was admitted April 17th, with malignant-looking ulcer in the tongue. He says it came about two months ago from the irritation of a rough back tooth, and that its first appearance was like a small cut in the tongue; it has not given him much pain till lately. There is an irregular excavated ulcer, with a hard base, extending from the back part of the left side of the tongue to the frænum and middle part: its circumference is as large as a walnut: there is also some superficial ulceration of the soft palate just where this ulcer of the tongue comes in contact with the palate. The hardness very nearly reaches the gums of the last molar teeth. No gland is enlarged. He suffers some pain from it, especially at night. He never had the venereal disease. The patient is of a dark, sallow complexion; and his tongue is foul, and covered with a dirty yellow crust. Pulse natural.

This is an example of cancer in the tongue, which is generally of the scirrhous kind in this organ; and in the history we may notice that it appears to have been excited by the irritation of a tooth, which has the same effect as the blow in the former case of determining the locality of a cancerous tumor in those who have already a cancerous diathesis. But there are several other diseases of the tongue which bear much resemblance to cancer in different stages of its progress, and, from the questions which have been put to me on the subject of this case, I am induced, before speaking of what has been done for it, to point out to you, in a rapid sketch, the various disorders of this organ which may be confounded with cancer.

a. First, then, there are *irritable ulcers* of the tongue and lips, which are excited by the irritation of rough teeth, as this disease

was; and they are often very painful, and interfere much with the speech of the patient, and with his eating and swallowing; they are attended with much salivation, and have a foul and phagedenic surface, and the patient is frequently thin and sallow, and haggard, as if he was suffering from cancerous cachexia: but there are generally several of them, while cancer is single; and there are many signs of indigestion on which the irritability depends: the tongue was loaded indeed in this case, but it was with a thick dirty yellow crust, which soon cleaned, and arose from irritation chiefly; and the surface elsewhere was not chapped or reddened, as it is with the irritable ulcer. There is usually an habitual state of constipation, or an occasional attack of diarrhœa, or the appetite is bad; and the irritable sores, though the edges may be hard and elevated, have no uniform hard base, or tumor, below them in the substance of the tongue, which may be commonly felt in cancer, and was, in our patient, as large nearly as a walnut in its circle. This drawing was taken by Mr. Hewett from a patient recently under my care, and shews you very well the appearance of those irritable ulcers of the tongue; they were excessively painful, and when in this state are best treated by repeated small doses of laudanum, with some carbonate of ammonia in the course of the day, following generally an active dose of calomel, with Dover's powder and a saline purgative; and warm water, or some stale bread partly masticated, and allowed to lie as a poultice on the ulcers, will be the best local treatment. After this, (or at once, if opium is not necessary), the condition of the general system may be improved by alterative doses of blue-pill, or mercury and chalk, with bitter infusions and carbonate of potash; or if the patient is thin and sallow, by sarsaparilla, with small doses of bichloride of mercury. Locally, you may apply the linimentum æruginis, if the ulcers are foul, taking care the patient spits it out again; or a gargle of decoction of bark and myrrh when white sloughs cover them; and they will readily heal, and much pain be removed, by the use of solutions of caustic, or lunar caustic in substance, avoiding such a quantity of it as to avoid blackening the teeth; and wherever rough points of the teeth keep up irritation, they must be filed down, or the teeth extracted.

b. Secondly, a *syphilitic* sore on the tongue bears much resemblance to cancerous disease. There is here a very good drawing of a secondary syphilitic ulcer from a patient who was under my care in the hospital some years ago, and you may perceive that it may form a large excavated ulcer, half an inch deep, with elevated and somewhat hard margins, and a dark livid colour of the surface around it, the bottom of the ulcers being covered by dark brown or nearly black sloughs. The edges, however, are less fungous or warty than in cancer, and, though hard, there is an absence of the firm structure below and around the ulcer which is formed by the new growths of carcinoma; the foul excavation extends into the cellular tissue, but you can feel that the substance of the tongue is sound; and then there is commonly something in the history of the patient, or there is some other symptom present, a spot of psoriasis elsewhere on the tongue, or on the tonsils, or palate, or some eruption on the skin, which excites attention and points out the nature of the disease; and when ascertained it quickly gets well, as this did, under mercury; or under sarsaparilla and iodide of potassium, if the mercurial treatment is contraindicated. Our patient, we perceive, denies having had the venereal disease, and has nothing like a syphilitic appearance in the present state of the tongue; he had, indeed, slight ulceration of the palate, but it was obviously from the contact of the tumor, and soon healed.

c. There is, in the next place, the *fissured* or *dyspeptic* ulcer of the tongue, originating in psoriasis very often, so that besides the ulcer a flat plane surface is often seen in another place, from which the papillæ have been absorbed, or there are chaps on the tongue which show the irritable condition of the mucous surface of the alimentary canal; but the dyspeptic ulcer much resembles cancer if there is a deep fissure with elevated fungous margins cutting the tongue in portions, interfering with the patient's speech, and causing a good deal of salivation, and still more, if there is, as in this drawing, a condensation of the cutis over a large prominence, with irregular, firm, warty excrescences. Here, too, however, there is an absence of the morbid structure below the projections; the fissure is frequently in the median line, while in cancer the disease is generally on one side only of the raphé; the rest of the tongue is chapped and irregular, while in cancer two separate parts are very seldom diseased; and there are many of the signs of irregularity of the digestive organs: although perhaps the patient will say he is in good health, yet, if cross-questioned, he will acknowledge that there is more constipation than there used to be, from deficiency of bile, or there is occasional diarrhœa, or the urine is high-coloured, with deposit of lithates; the tongue is furred, and the sleep is disturbed, or the appetite lessened; often the countenance is greasy, with copious sebaceous secretion, and the pulse is generally quick, and small, and irritable. Sometimes you will cure these ulcers, and get the prominences in great measure absorbed, by the same general remedies which I have just

spoken of for the common irritable ulcers. Sometimes alkaline purgatives, with a few drops of colchicum-wine, every morning, will do good for a time, till other remedies of a tonic kind can be given, of which in general the best of all is arsenic, from three to ten drops of the solution being given three times a day, with an occasional rhubarb and magnesia purgative to prevent its injurious effects.

d. Another form of disease which in some measure resembles cancerous ulceration is a kind of *carbuncular suppuration* in the tongue. Sometimes a number of small tumors are seen, of the natural colour, and of the size of peas, which slowly suppurate, and little orifices lead into cavities below the cutis, lined by white sloughs, each coming separately forwards, and the whole lasting a considerable time; sometimes a smaller number of larger and darker coloured elevations take place, and unhealthy brownish-white sloughs are exposed, the cutis being undermined by them; still, however, the disease being only in the cellular tissue, without hardness, and not extending into the substance of the tongue. But in other cases deeper and larger sloughs will occasionally form in one or two places, the cavity being filled by foul dark-brown, or black sloughs, and the skin sloughs to some width, deep fissures being left when the sloughs come out. In all cases, the absence of hardness, and in most the number of diseased parts, readily distinguishes them from cancerous ulcers, although a superficial glance might lead to mistake. Such carbuncular inflammation as this is seen chiefly in persons of bad system, weakened by intemperance or starvation, or they occur as the sequelæ of syphilis, or the patients are otherwise brought into a state of cachexia. They require generous diet, and the use of the balsams locally, and sometimes the undermined skin, to some extent, must be laid open to expose the cavities and let out the sloughs.

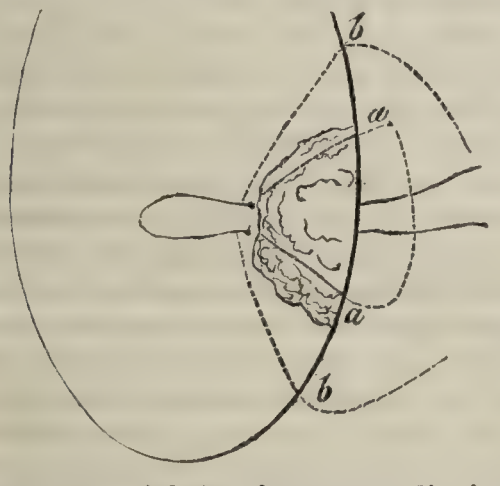
e. There is occasionally seen a *globular tumor* in the substance of the tongue, which has been supposed by Mr. Travers, who has described it, to be an encysted tumor, but which, I should rather suspect, is a scrofulous abscess; for although such a round smooth body as he speaks of sometimes disperses, and might be considered dyspeptic, I have also seen them suppurate slowly as a chronic abscess would do, and discharge a thick cheesy pus; and an encysted tumor does not differ from what is observed in other parts. If there are both forms of disease, you may recognise them by their roundness and smoothness, as contrasted with the harder and more irregular shape—quadrangular, or whatever it may be—of cancer of the tongue. You will see them disappear sometimes under the use of mercurial alteratives and bitters, or iodide of potassium, taking a year or more to disperse altogether; or you may be obliged to open them, as scrofulous abscesses. I have very seldom seen anything, however, except common encysted tumors, or scrofulous deposits ending in suppuration.

f. You will in the last place occasionally meet with a *common abscess* of the tongue, a swelling quickly ending in suppuration, in comparison with the last scrofulous abscess, and soon filling up and healing. Neither this, however, nor the last, except that there is a swelling, can easily be mistaken for the hard tumor of cancer, nor for its ulcer after suppurating.

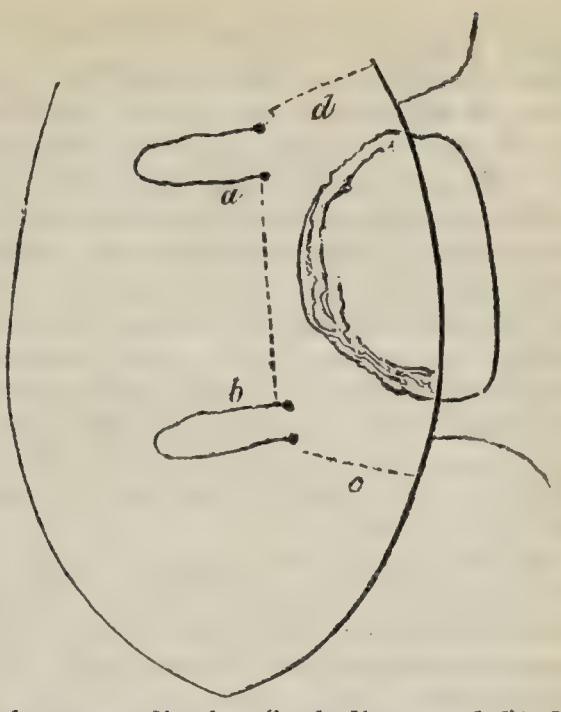
Having, then, taken this survey of diseases of the tongue which may be confounded with cancer, let us now return to our own case, which is evidently no one of these; but an example of carcinoma of the scirrhous form. Now the removal of cancer of the tongue by operation is very rarely indeed successful, and the reason is obvious if you examine these preparations on the table; it is this—that there are almost invariably separate tubercles in the neighbourhood of the original tumor; they are commonly in the substance of the organ, varying in size from a pin's head to half a pea's; but I have seen them, in a patient of Mr. Keate, developed superficially in the cutis around the cancerous ulcer. I cannot say that I have myself seen a single example in which the operation was not followed shortly by a return. The tumor in this case was even less likely than many others to be entirely removed, as it was of very rapid growth, having only been discovered two months; and the palate was ulcerated, and possibly contaminated, and the patient had a sallow unhealthy countenance; still, however, it did not seem right, as no gland was enlarged, to abandon him without any attempt to save him from a very miserable end. I did not do it immediately after his admission, however, in order to be certain that the ulcer of the palate was not of the same character, and to see how quickly the ulcer was spreading; and I used a solution of the chlorinated soda, of the strength of one pint of the saturated solution to twenty of water, and gave him for a few days some arsenic; not that I doubted its nature, indeed, but that you might see its failure, and it could do no harm, and something must be given or done till we had determined on the operation. You saw, then, that on the 26th of April the ulcer on the palate was nearly well, and on the 29th, the notes say that great part of the ulcer of the tongue was healed, but that the hardness remained; and on May 2d, an operation was performed.

There are two methods by which cancer

of the tongue may be removed; namely, excision by a bistoury, or by ligature. Where the disease is situated at the front or sides of an organ, I think you may take your choice; and the knife is perhaps the best way of doing it, as it is easily effected with little future mischief; while the ligature sometimes causes a good deal of swelling of the tongue, and difficulty in breathing and swallowing. I have known a patient half suffocated, indeed, from the large swelling pushing the tongue backwards, and filling the mouth, and ulcerating it by pressure against the teeth; and you can in this part easily tie the bleeding vessels. But in our patient the disease was far back towards the root of the tongue, and I think excision is here quite out of the question, from the great size of the lingual and ranine arteries endangered by the knife; and you saw that even with the ligature the hæmorrhage was attended with some danger; the tongue being very brittle, and easily breaking down under the silk. The lingual artery has sometimes been tied separately for hæmorrhage, or attempted to be tied without being found. I determined, therefore, on trying to remove the whole disease by ligature. The mode in which I did this I have already explained at the time of the operation; but as some of you may not have been present, I will just say to you, that in the usual way of tying a large tumor, by a double ligature, some part is liable to escape, as in this diagram; if you tie the



ligatures very tightly, they may slip in this line (*a*), and so leave little portions beyond them; or else, to secure the whole, a good deal of healthy substance must be included, as in the line (*b*). The ligature I used was therefore made to perforate the tongue twice; the first time quite towards the front of the tongue; and the second time quite behind the back part of the tumor; by then cutting both the loops on the surface of the tongue, the under or middle loop can be tied tightly in a longitudinal direction (as from *a* to *b*), cutting off the whole length of the tumor from the body of the tongue, and then the two ends can be tied quite transversely, so as to secure the whole tumor



without any slipping (in the line *c* and *d*). One thread unfortunately broke, so that I was obliged to modify this plan, and pass the eyed needle again through the back part of the tongue, to secure the whole if it were possible.

Our notes remark that he lost about six or eight ounces of blood at the operation, and secondary hæmorrhage occurred to the extent of about 14 ounces; this was, however, controlled by astringent injection of alum, and iced water, and by pressure by the finger; but it broke out again in half an hour, when a ligature was passed through at the base of the tongue, and tied, which permanently stopped it.

Our patient had very little of the swelling I have just spoken of, having on the next day, our notes tell us, some difficulty of swallowing, but none of breathing; and on the 8th, the ligature was loose, and no hardness was perceptible. Some care is required during the separation of the slough, that the tumor does not again become organised; for the ligature can scarcely be tied so tight but that some little vessels in the centre may escape pressure, and thus allow blood again to enter when the circumference has become loosened by ulceration, and the ligature no longer presses on the remainder; the consequence is (and I have seen the same in tying large nævi), that a supply of blood again enters, and parts apparently quite dead and black are again endowed with vitality, and would soon adhere to the surfaces from which they have been cut off by ulceration; and the disease would be soon as large as ever, unless on the third or fourth day, when the ligature begins to be loose, you applied a fresh one, so as to finally destroy the remaining attachment. This, however, was not necessary in this case, and on the 15th of May, the cicatrix had contracted, so that the man was desirous

of being an out-patient, promising to shew himself from time to time.

On the 20th, the notes remark, the ulcer is nearly cicatrised; the voice is much improved, and he has no pain; but they add, the back part of the tongue attached to the palate and jaws has a reddish prominence of suspicious appearance; and on the 27th, a week afterwards, the return of the disease was already evident. The ulcer remained nearly healed, but with much hardness below and around the contracted cicatrix; the surface of the anterior arch of the palate, and the membrane passing to the under part of the jaw, has some distinct warty growths rising from them.

But the operation having not been successful, why not operate again? I must confess that the chance of doing good appears much too small to justify further interference. The disease has returned, and is increasing so rapidly, and its progress towards the palate and jaw is already so considerable, that it would be sure to fail; and I should run much risk of hastening the progress of the disease; besides the chance of hæmorrhage, which has just been so great, the unsuccessful operation would add to the irritation and rapidity of the next growth; nor does the application of any caustic seem, for the same reasons, admissible. It is, however, a miserable fate to which we leave the poor man, with pain, and irritation, and difficulty of swallowing and breathing, from its progress backwards. You can here see, for example, the epiglottis pushed back, and the arches of the palate much affected, as they threaten to become in our patient; then the patient is half-starved, if he escapes suffocation, unable to swallow even the softest food from pain, and inability to move the parts in the throat, and sickened as he often is by the discharge, which is as fœtid and horrible as a mixture of the fœtor from a bad mercurial salivation and diseased bone at once, may be supposed to be. Neither do I think there would be any advantage gained by another method of applying a ligature, which has been sometimes done by incision under the chin, between the muscles of the tongue; it is difficult, indeed, as you saw, to apply the ligatures by a needle in a handle, when the disease is far back in the mouth; and for some cases of considerable size, some such method as is described by Mr. Arnott in the Medico-Chirurgical Transactions, may be practised. I will not detain you to explain the plan, but you can understand the course of the ligatures by looking at this drawing, which accompanies his case. In our patient, however, the difficulty is not so much from this cause, as it is from the implication of the adjacent structures in the disease. [In a week or ten days after this lecture, the posterior arch of the palate, as well as the anterior, shewed signs of new malignant growth, and the disease seemed likely to make quick progress.]

ON

FRACTURES OF THE VERTEBRÆ.

By W. Lyon,

Lecturer on Surgery, and lately one of the Surgeons of the Glasgow Royal Infirmary.

(For the Medical Gazette.)

[Concluded from p. 364.]

The varying consequences of different kinds of lesions of the cord are well shown in the three cases. Analogous to what is observed from similar lesion of the brain, the small, pointed, depressed spicula on the cord occasioned the most severe symptoms, and the most rapid death, the man dying on the 16th day after admission. In M'Gill, in whom there was an equal amount of pressure on the cord as in Gallagher, who died on the 16th day, but in whom the pressure was made over a larger surface, and by much more obtuse portions of bone, the primary local displacement must have subsided; nature had commenced osseous anchylosis of the intervertebral surfaces, and had nearly completed an osseous case, surrounding and supporting the spine at the fractured part, and in so far restoring the functions of the spine, that power and voluntary motion returned in the inferior extremities, when secondary inflammation seized the injured parts, and this, combined with the deprivation of the functions of the cord in the parts below the seat of fracture, and the effects of extensive ulceration, caused death; but not until nearly two months subsequent to the accident.

It has been observed in bruising, laceration, or pricking of nerves, that the local effects, and general disturbance, though there is not entire loss of function, are far greater than when the nerves are divided: in the latter case the function is instantly interrupted, and the local consequences are not materially different from those occurring in less vital tissues: in the former, viz. bruises, lacerations, or pricking, the functions may be destroyed, perverted, or exalted as in paralysis, spasm, neuralgia, tetanus, &c., and added to these there is

usually high local and much general excitement.

The case of M'Lusky, in whom the cord was entirely divided, goes to prove that in the nervous trunks, so in the spinal cord, complete division, so far as more immediate effects are concerned, is a less severe and a less quickly fatal lesion than much bruising, pricking, or tearing; for whereas one of the other two patients died in 16 days, and the second in two months, M'Lusky lived for 13 weeks, or two months and a half, and died less from the *local* effects of the injury, (for the divided extremities of the cord were rounded, cicatrized, and healthy,) than from interruption to the organic functions, which are in so far dependent on intact conditions both of organic and spinal nerves*.

The *displaced* and altered course (for I do not think they could have *contracted* so as to have accommodated themselves to the altered relations of parts) of the aorta, vena cava, thoracic duct, and sympathetic nerves, by the riding of the portions of the spine, would have led us to expect some disturbance of the functions of one or all of these important organs: no proof of the correctness of this expectation existed during life, and examination into their condition after death was not permitted.

Observation of cases of paraplegia proves that the organic functions of digestion, chymification, chylification, absorption, general and local nutrition, secretion of urine, &c., &c., can proceed independently of the influence of the spinal cord; but the tympanitic abdomen, constipated bowels, ammoniacal urine, proneness of the tissues to sloughing and ulceration, afford evidence that the cord ministers to other functions besides those of secretion and power of motion. On the other hand, the conditions in the cases detailed do not at first sight corroborate the views of Dr. Marshall Hall, as to the spinal cord being in a great measure apart from the cerebrum, the organ for the reception of external impressions, and transmission of consequent power of action independently of the will.

For, the entire division of the cord at the third dorsal vertebra in M'Lusky, as it was far above the described seat* of the reflex centres, should have permitted the production of the excito-motory actions from tickling, pricking, &c. Now these modes of irritation were often practised in various situations; the large ulcers on nates, &c., were frequently coarsely rubbed, but no motion of the paralytic extremities could be excited, or was ever observed to occur from natural causes.

The phenomena remarked in the case of M'Gill are at first sight favourable to the views of Dr. Hall. But motion of the limbs did not occur from tickling or pricking of the soles until four weeks after reception of the fracture, and only after sense of heat had been experienced in limbs, and power of motion in toes of right foot had returned. The return of voluntary motion, and the feeling of heat in the recently paralysed parts, showed that the integrity of the cord was becoming restored; and it may be feasibly insisted that the excito-motory actions manifested three days later, were only the slight, waning remains of the voluntary function. At all events, the seeming excito-motory actions occurred at the period at which there is every reason to believe improvement had furthest advanced in the injured part of spine.

Pain was again felt in the seat of injury, and in all likelihood inflammation, ulceration, and suppuration, supervened in the fractured vertebræ, intervertebral cartilages, and surrounding tissues; and neither voluntary or involuntary motion nor sensation returned. On the views of Dr. Hall, the interruption of communication between the cerebrum and injured part of the cord should not have prevented the manifestation of excito-motory actions; and supposing his opinions correct the absence of those actions can only be accounted for on the supposition that the effects of the injuries to the cord had extended to the seat of the reflex centres, and had, as is usual from disease, destroyed the functions of the part. In this manner† shock or concussion would paralyse the functions of the cord below the seat of injury at first‡; afterwards inflammation

* In Observations on Injuries of the Spine and Thigh-bone, by Charles Bell, London, 1824, p. 25, there is the case of a child detailed, who lived 13 months after an accident which divided the cord, the child then dying of croup, but whether connected with the injury is not stated.

* Dr. M. Hall, On Diseases of the Nervous System, p. 227, par. 111.

† Dr. Hall on Diseases of the Nervous System, p. 226, par. 1109.

‡ Ibid. p. 247, par. 1208.

or its consequences would act in a similar manner; and by the time these passed off, the capability for action had become exhausted, from communication with the brain, on which it partially depends, being interrupted.

It is asserted by some that Dr. Hall's views do not satisfactorily explain the phenomena exhibited in experiments nor the symptoms existing in morbid conditions. Among other questions, they ask, how is it that the reflex actions are not present in every case of paraplegia the cause of which is above the disturbed locality of the reflex centre? This objection is answered by the statement contained in the preceding paragraph. But sceptics on this subject propound other queries, such as—if the spinal marrow in man, independent of the cerebrum, be the seat of the nervous agency for conferring muscular power, how does it happen that the amount of muscular power is so very insignificant, as is shown in pricking, tickling, &c., when connection with the cerebrum is cut off? It will be replied, that this is from the absence of the influence* of the will, which, however, on the supposition of Dr. Hall, should not give power, but only permission for its being called into action; and the opponents to his opinions contend that the manifestation of considerable power without the influence of the will, or from pricking or other modes of excitement, should occasionally appear, which, in experiments or injuries where the cord is entirely divided, has never been found to happen. They likewise propound other queries on the subject: they ask—what is the difference between the phenomena shown by pricking the muscular substance in a recently amputated limb, in which of course there are innumerable nervous filaments, and those which are sometimes evinced by tickling or pricking portions of the surface below the diseased or injured part of the cord in paraplegia?

In both cases the muscles above the part pricked or pinched contract simultaneously with the application of the irritant. In the one instance, however, viz. the amputated member, the capability to contract ceases in a short time: in the other it frequently continues for a long period. But does not this difference depend upon the one retaining circulation, and the influence of organic nervous connexions, and the other being deprived of all kind of vitality; and as the local reflex actions are shewn in the one when entirely disconnected with the brain, may they not also reside in the nerves of the other, of course extrinsic to the cord, and may not their continuance in one, and not in the other, arise from retention of the circulation, &c., as above stated?

To prove that the excito-motory actions depend on the cord, Dr. Hall cut across the sciatic nerve in one limb of an animal the spinal cord of which had been previously divided, and left the sciatic nerve of the other limb intact. In the limb the nerve of which was undivided he found the excito-motory phenomena to be present, while in the other, where the nerve was cut across, they could not be detected. But the conclusion inferred by Dr. Hall from this experiment is doubted. He acknowledges that the excito-motory actions are not always present immediately after reception of the injury which causes the paraplegia, the concussion or shock probably paralysing the excito-motory centre; in the same manner, it is insisted, that the injury caused by the division of the sciatic nerve paralysed its functions for the time being, and that therefore the experiment does not invalidate the opinion of the source of the reflex actions residing in the nervous trunks, as well as the spinal marrow.

By stating here these arguments against the doctrines of Dr. Hall, I do not wish to be understood as assuming for them any great force, far less absolute correctness; but I think further consideration requisite before implicitly subscribing to the views which hold that there are several reflex arcs—that they are all situated in the spinal cord, and are independent alike of the cerebrum, on the one hand, or the nerves which emanate from the cord, on the other.

I have already briefly dwelt on the difficulty, as evidenced by the preceding cases, in most, and impossibility in many instances, of severe injury to the spine, of deciding positively whether or not fracture be present. If there be any difference of opinion as to the general futility of examination with the view to detect fracture, there will be more as to the hurtfulness and even danger of subjecting with this object the pa-

* Ibid. p. 216, pars. 1036-7

tient to much motion; as thereby the fractured portions and displaced vertebræ, acted on by the weight of the body, muscular action, and it may be, force exerted by the surgeon, may be made still further to press upon and injure the cord.

On the presumption that due care and skill were exerted in the examination of the three cases described, and that the reasons adduced as to the difficulty of exact diagnosis are allowed validity, the futility of much manipulation in spinal injuries will be admitted. But while observations of the spinal contour, and careful and gentle pressure and counter-pressure, are not to be omitted, the aid afforded by the stethoscope should not be neglected. When we recollect the delicate organization and important functions of the cord, the loose and sharp osseous fragments seen in the preparations, and the stretched and lacerated ligaments permitting motion and displacement of the fragments and vertebræ from each other, we need not dwell on the impropriety of forcible digital pressure over the injured parts, or rude or frequent change of posture of the patient, in order to attain our object.

Where fracture does not exist, it would certainly be advantageous to be able to determine its absence, for we would then be authorised to practise more actively than if it were present; otherwise, I am not sure that its detection would be more than negatively serviceable, by guarding us against the dangers of pressure and motion. But this opinion has not been held by all practitioners, for when not only fracture but displacement has been found present, there are examples where attempts have been made to replace the parts by extension. These may be beneficial, dangerous, or unserviceable, and we believe it is impossible to predicate which of them may result in any given case, and therefore the risk of their employment in any. In the instance of M'Lusky, where the cord was divided, and the vertebræ overlapped, extension might have remedied the displacement; but we do not possess means to retain apposition in the spine as in fractures of the long bones; and therefore the least motion of the patient, aided by contraction of the muscles situated upon the spine and trunk, would have caused the obliquely broken vertebræ again to have slidden downwards and forwards.

Whether, if displacement could have been prevented, union of the divided cord would have ensued, we can only conjecture as probable from the analogy witnessed by reunion of divided nerves. The intervertebral ligaments and intervertebral cartilages were in this case torn, and had the extension been carried farther than just to have brought the overlapping portions and spine to a straight line, the strain would then have been thrown not only upon the muscles, but also upon the aorta, vena cava, thoracic duct, and nerves running upon the spine, and instant death might have been caused, shewing, if not the most imminent danger, the nicety requisite in such procedure. Similar conclusions are deducible from the state of the parts in Gallacher. The spine might have been made straight, and the displacement have been removed, but the intervertebral substance and articular and general ligaments being lacerated, the extension might have told upon the cord or important organs in front of the spine, and increase of injury, or instant death, have followed; while it would have been quite impracticable to have maintained adjustment. In addition to these objections, extension, in the third case, that of M'Gill, by making the cord straight and tense at the point where it was pressed upon by the sharp fragment, would have caused the fragment to have been more deeply depressed into the cord.

The objections against attempts at replacement by pressure directed transversely to the line of the spine, pushing the one portion backwards and the other forwards, are not so weighty as against the practice of extension; but the fragment would not be easily, if at all, replaced where there is overlapping, or if the oblique processes were unbroken; and if the pressure were carried in the least too far, the same evils would result as from extension.

Those points considered, I conclude, that by the weight of the body placed upon a hardish plane surface, as a mattress, we will, if not so effectively as concerns replacement, accomplish at least safely all the advantages within our power; and that although patients have escaped where the practice of extension has been followed,

that nevertheless it is imminently dangerous, and may be instantly fatal.

Not more generally admissible or efficacious, though not so immediately dangerous as extension, is the proposal, which has likewise been practised, of trephining, or otherwise removing, a portion of the osseous canal in order to remove depressed bone. There are few cases, indeed, in which appearances will be so distinct as to enable us to determine on its propriety; and it is a practice not merely of a negative kind, for if not beneficial it will be deeply injurious, by converting a simple into a compound fracture, which, if dangerous in other localities, is incomparably more so where the spinal cord is concerned.

Nor, besides its remote consequences being hazardous, will its mere performance be an easy or safe matter. The soft parts being turned aside, we have, in a deep and narrow wound, to work with the trephine, or Hey's saw, obstructed by the remains of muscle, obscured by blood, in just fear of wounding the cord, and the difficulties greatly increased, if, as in M'Lusky's and Gallacher's cases, the saw has to work upon numerous loose portions of fractured oblique and transverse processes heaped on each side of the spinous processes. I can conceive a case in which it might be justifiable to attempt this operation; as, where a spinous process was unequivocally depressed, and the spine otherwise apparently intact, and where symptoms of dangerous pressure existed. Such a case is not likely to be met with, and seeing how vague is the diagnosis in spinal injuries, and how uncertain the locality and extent of the lesion, the circumstances must be very rare where the operator who attempts this procedure will not deserve the accusation of hardihood or rashness rather than the credit of prudence. Yet M'Gill's case was one in so far well calculated for the practice we have been reprobating. The main and most dangerous lesion was the small sharp fragment depressed into the cord. The ligaments, too, were lacerated, the intervertebral substance injured, but these might have been recovered from had the fragment been removed. There were not, however, any signs of fracture; the exact locality of the injury could not be elicited; though fracture had been evident, its kind or situation could not have been ascertained, and the operation was therefore inapplicable.

In fracture of the vertebræ, with partial dislocation, as in Gallacher, the operation of removing a portion of the osseous canal, in expectation of lessening the pressure, would have been not only totally inefficacious, but decidedly hurtful. In such an instance the pressure is not confined to the posterior part of the cord, the anterior surface being likewise stretched over and compressed upon the anterior part of the vertebra*; the removal of the posterior portion would here, too, be of course unserviceable, the pressure anteriorly remaining undiminished.

The bad effects of motion will, we suppose, be assented to. Where there is appearance of displacement, few, we think, will have the temerity to employ extension or the trephine. Supposing there be not any impediments to replacement excepting muscular action, there still remains for consideration the agency to be obtained for restoring the line of the spinal column by the weight of the body placed on a plane hard surface.

We have described how, in opposition to every means for lessening the bad effects of pressure on the paralysed parts, that numerous large ulcers, which would have proved dangerous apart from the other lesions, rapidly formed on the patients who were under my care. We are therefore placed on the horns of a dilemma. The weight of the body resting on a hard plane surface is the gentlest means of obtaining and keeping up the proper position in fractures of the spine with displacement; perfect repose is likewise most important: but the more the patient rests in one posture, and the firmer the substance he rests upon, the more rapidly do the ulcers show themselves and extend. Fulfilment of all rational indications, then, the only measures likely to be useful for restoring the healthy line of the spine, and to permit exertion of the sanative powers of nature, are, in another view, viz., from their tendency to induce sloughing or ulceration, incompatible with the safety of the patient. The means, therefore, the most beneficial in one respect are unfortunately the most hurtful in another.

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* See Plate 2nd.

As far as possible to obviate the effects of pressure, I employed frictions, air-pillows, change of posture, the hydrostatic bed, and stimulants to the sloughing and ulcerated parts, but without advantage; sores, some of them the size of a tea-saucer, forming over the sacrum, trochanters, &c., and exposing the bones.

It may be said that what I gained by change of position I lost by its tendency to increase the causes of the paralysis and loss of sensation; the best proofs that this was not the case were the existence of the sloughing before change of position was had recourse to, and its not extending more rapidly after its employment. Floating in the hydrostatic bed is less favourable for removing displacement of the broken vertebræ than is reclination on such a surface as that of a hair mattress; but by equalizing the pressure from the weight of the body, diffusing it over nearly the whole surface, I anticipated that ulceration of the soft parts would have been prevented. Rational and ingenious as is Dr. Arnott's hydrostatic bed, and grateful and useful as it often proves, it is somewhat difficult to carry out in practice the principles on which it is constructed. For, to allow the patient to be supported entirely by the water, he requires to be immersed in it with the exception of the head and a small portion of the anterior part of the thorax: but any of the beds I have seen are not formed with a sufficient quantity of waterproof cloth, and consequently the patient is borne upon the stretched cloth, not floated in the water, and the pressure acting principally upon the tissues over the more prominent parts, as the points of the ilia, the trochanters, and sacrum, the weak vitality they possess is soon destroyed. Even when the bed is constructed according to the directions of the inventor, the mattress requisite to prevent subtraction of heat and communication of dampness by the cold water*, prevents perfect diffusion of the weight of the body, and the prominent points, as in the other case, soon give way: still, with all these objections, I believe the hydrostatic bed, as it is the most ingenious, so it is the best we possess for obviating injury from pressure†.

The means I used may have *retarded* the bad effects of pressure; they did not *prevent* or *arrest them;* and, all things considered, the only legitimate conclusion I can draw from experience is, that the utmost degree of quietude, on a plain firm surface, such as a hair mattress, which is compatible with the avoidance or retardation of sloughing, is the extent of our serviceable interference, in so far as relates to rest and posture, in the treatment of fractures of the spinal column.

It has been proposed to call in the aid of splints in this kind of injury; but when we reflect that they must be retained, supposing the fracture in the dorsal or lumbar vertebræ, by bands over the yielding abdomen, and would therefore be ineffective; or applied around the thorax, if loosely, useless, and if tightly, unbearable; and that their necessary hardness and firmness of application will of a surety hasten the sloughing, which the most appropriate measures cannot prevent; we must take leave, with all due respect, to dissent from the recommendation "that *some sort* of splint" should be applied "on each side of the spinous processes,"—an advice given with a vagueness not usual with the talented and experienced writer, Mr. Liston.* True, there are cases of fracture without displacement, therefore comparatively slight injury to cord, and only partial paralysis and loss of sensibility; but even in these we fear that pressure by splints, of sufficient degree to prevent motion, would, at the same time, be certain to occasion the serious evil of sloughing.

To relieve the pain in injured part of spine, and to prevent inflammation in the vitally important cord, I repeatedly applied leeches in two of the cases forming the subjects of this paper.

Among other reasons, the practice is objected to because it necessitates motion; and were all motion avoidable, the objection would be a valid one. But as the patient will, in all probability, require to be moved in order to prevent sloughing, advantage may be taken of it to apply leeches, if considered requisite. Were the practice of absolute necessity, contrivances could easily be had for its employment without change of position. Used in moderation, where there is no displacement,

* Dr. Arnott recommends a couple of folds of blanket, not a mattress.—Ed. Gaz.

† Air beds are now frequently used.

* Practical Surgery, ed. 1837, p. 52.

they should tend to prevent the destructive effects of inflammation, as softening, or effusion on the cord or membranes, and of ulceration and suppuration in the bones, ligaments, and intervertebral cartilages. In spinal fracture, with displacement, the principal cause of morbid action not being removable, the serviceableness of leeches is very limited, if not altogether doubtful; and if applied frequently, and in considerable numbers, I would fear increase of the disposition to sloughing, by their influence in diminishing the actions of the nervous and sanguineous systems. The difficulty of always deciding whether the paraplegia arises from fracture, extravasation, or concussion, will sometimes prompt us, in equivocal cases, to employ local depletion; and similar reasons may actuate us to exhibit, as I did, small doses of mercurials, which, in the one set of cases, would be highly proper practice, though in the other, viz. fracture, especially if accompanied with displacement, the propriety of using the mineral is, in consequence of its debilitating effects, somewhat more than problematical.

In the early stage we exhibited Ol. Ricini, with Sp. Terebinth., to obviate the constipation and remove the tympanites. In the second stage, when debility had set in, and the rigors and perspirations indicated the supervention of softening and suppuration in the cord and surrounding parts, the peristaltic action of the intestines, mainly dependent on the organic nerves, were much increased, and causing, or accompanied by, augmentation of secretion from the mucous membrane, diarrhœa and dysentery became troublesome, and greatly accelerated the fatal result.

The principles of treatment deducible from the observation of my cases, and the reasoning founded on them, will be found expressed in the preceding remarks; and I will close them by acknowledging that, if of any practical value at all, they will be so, less by pointing out what will be directly beneficial, than by showing what will be hurtful, in the serious lesions existing in fractures of the vertebræ; that our treatment should be less an active attempt to control diseased conditions, than the employment of palliative measures, in order to afford nature every assistance, by preventing additional involvements, and thereby limiting the necessity for, and husbanding, her restorative researches.

REPORT
ON THE
ROYAL MATERNITY CHARITY.

By F. H. Ramsbotham, M.D.

(For the London Medical Gazette.)

[Continued from p. 369.]

During the year 1839, there were delivered in the Eastern District of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham,—

2079 *women—Of which cases,*

18 were twins—being one in every 115½ cases: of these in 9 both heads presented; in 6 the presentations were head and breech, or some part of the inferior extremities; in 1 both were breech or inferior extremities; and in 2 the head and shoulder. The children in 4 cases were both boys; in 9 both girls; and in 5 of different sexes.

1082 were males.

1015 were females.

2044 were presentations of some part of the head, of which 8 were face presentations—about one in every 274½ births.

48 were presentations of the breech, or some part of the inferior extremities—about 1 in every 43⅔ births; of these 8 were twins.

5 were transverse presentations—about 1 in every 419½ births; of these 2 were twins. All were at full time, and delivered by "turning." Three were still-born; one of these was a second child of twins.

In 5 the placenta was implanted over the mouth of the womb; 4 entirely and 1 partially—one in every 416 cases. All these women were delivered by "turning;" the head presenting above the placenta. Three of them died of the effects of hæmorrhage; one,—the case of partial presentation,—within half an hour after delivery; the child was dead; another on the eighth day; this child was born living; and the other in 8 hours; this was at 7 months; she had suffered severe hæmorrhage for three weeks, and the child was born still.

The other two women did well; but one of these children was also still-born; so that only two women and two children were saved out of the 5 cases.

7 were complicated with alarming hæmorrhage before delivery; *not* the result of placental presentation—one in every 297 cases. All these children were expelled naturally; and all were born dead; four of them were premature; in 1 case the feet presented, and the funis prolapsed; in another hæmorrhage had been going on for five or six weeks before labour commenced. All the women recovered; in all the artificial rupture of the membranes put a stop to, or much diminished, the discharge of blood.

In 14 cases the placenta was retained within the uterus, either by atony or irregular contraction of the nterine fibres, or by morbid adhesion between the uterine and placental surfaces, requiring the introduction of the hand for its removal—one in every 148½ cases. With all these there was more or less hæmorrhage. All the women did well. Two were twin cases.

2 were delivered by craniotomy—one in every 1039½ cases; they were neither primary labours, but in both cases the pelvis was distorted; in one there was a cicatrix in the vagina, the result of sloughing after a previous labour; and in the other the child was putrid, and had a tumor attached to the cranium.

3 were delivered by the forceps; one by the long, and two by the short instrument;—one in every 693 cases. In the case where the long forceps was applied, it was the woman's ninth child; she had always had lingering labours; the membranes had ruptured twenty hours before I saw her; the chief part of the head was above the pelvic brim, which was considerably narrowed in its conjugate diameter. The child was born living, and she did well. In another case the child was born still, and the woman recovered. In the third the child was born living; the woman went on very well for a week, when, owing to great imprudence, she was suddenly seized with violent inflammation, which carried her off in a few hours.

1 was complicated with puerperal convulsions before labour; she was seized in the night when she was alone, and found insensible in the morning by a neighbour; she continued in a comatose state, with occasional fits, for twenty-four hours, when she was delivered naturally of a live child. She had been previously much relieved by bleeding and purging, and eventually recovered. This was her third child.

9 women died either from puerperal causes, or within the puerperal month—one in every 231 cases; 8 only, however, as a consequence of labour—about one in every 260 cases; for one woman was almost in the last stage of typhus when she was delivered.

2012 children were born living.

85 children were born still—one in about every 24½ births.

Of the Deaths,

3 were from the effects of hæmorrhage, under placental presentation—one within half an hour after delivery; another in 8 hours; and the third on the 8th day.

1 from hysteritis a week after delivery by the forceps. This was attributable distinctly to the woman's own imprudence.

1 on the third day after a lingering labour from "hydrotid fever."

2 from peritonitis within ten days after delivery.

2 from typhus fever; one nine days, and the other a month after labour.

Of the still-born children,

21 were premature.

6 were putrid, at full time, or nearly so.

15 were presentations of the breech or some part of the lower extremities, at full time or nearly so.

3 were transverse presentations, at full time or nearly so.

With 8 the funis prolapsed.

1 was a face case.

2 were delivered by craniotomy.

2 were delivered by the forceps.

3 were delivered under placental presentations.

3 after violent accidental hæmorrhage at full time.

6 under lingering labour.

2 were the second children of twins.

1 woman was ill with fever.

2 had suffered an accident shortly before going into labour.

10 were at full time, not putrid, nor delivered by art; there being no assignable cause for the death of these children.

RECORD OF CASES.

By Thomas Mayo, M.D. F.R.S.
Physician to the Infirmary of St. Marylebone.

(For the Medical Gazette.)

[Continued from p. 228.]

Phlegmasia Dolens.

Priscilla Randall, a healthy and well-made young woman, of a dark complexion and bilious temperament, had been delivered of a healthy child seven weeks before she was received into the Infirmary of St. Marylebone. Her confinement had been easy; her milk plentiful; so much so that she had assisted in nursing another infant besides her own. Her health since her confinement, for the first five weeks, had been good, except that her lochia had been very insufficient, or almost entirely absent. She first came under Mr. Stafford's care in the Infirmary, on account of pain and swelling of the knee: having remained under his treatment a week, she was transferred to my female ward on the 26th of June, 1843. I saw her on the 27th. Her expression of countenance immediately attracted attention. It was vacant, and at the same time excited—an expression which she retained until convalescence. She was constanly rolling about her head. Her eyes were remarkably protruded; the pupils somewhat contracted. Her manner was childish; her utterance very indistinct; but she seemed to endeavour to continue a rambling talk. She complained, as far as could be understood, that she lost her sight and recovered it again suddenly and at intervals. Her aspect did not at that time indicate severe disease. The skin was warm, pulse small and quick; right knee swollen and tender, fluctuation was not then observable in it. She was nursing her child, having plenty of milk. The bowels were described as being open. The resident physician had given her the Pil. Galbani Co. gr. v. 6tis., probably under a natural suspicion of hysteria; he had also prescribed an emetic, and the lead-lotion to the knee. I directed Hydrarg. Chlorid. gr. ij., Opii. gr. ss. 8vis. horis; and cupping to the nape of the neck ad ℥viij.

June 29th.—The pulse had become more open, the aspect more composed, the intermittent amaurosis had ceased, and the head rolled about less. The bowels had been freely opened on the 28th. The knee was more swelled; fluctuation evident, with extreme tenderness, and heat of surface. The right thigh had enlarged; it was hot; and the femoral vein could be traced down it, having a corded feel. The patient complained of much tenderness about two inches below the os pubis; the femoral artery was observable beating with great impulse, having no such impulse on the left side. She had been very restless during the night; her manner continued the same as above described.

I ordered 15 leeches in the course of the vein, and the calomel and opium to be continued 4tis horis.

30th.—The leeches had drawn blood freely; the knee was very red and glassy, but less tender; much impulse still in that femoral artery; the urine plentiful; the tongue dry.

Calomel and Opium were continued, and two ounces of aperient mixture (Sulphate of Magnesia and Infus. Sennæ Co.) were given.

At 9 P.M. of that day the bowels had acted freely, and the tongue become moister. But the face was then contracted and livid; the skin cold; the pulse small; the restlessness increased.

I gave Liq. Opii Sedativ. ℥xxx.; Potassæ Bicarbonat. ℈j.; Misturæ Camphoræ, ℥iss. that night.

July 1st, 1 P.M.—She had slept, and looked better. The action of the femoral artery had diminished; the fluctuation at the knee increased. I directed that it should be punctured, and a free discharge of healthy pus took place.

The sedative was repeated that night, and the two next nights, and Calomel and Opium continued 8vis horis.

The corded state of the femoral vein, and the distension of the right thigh, now yielded gradually; but the rambling manner increased into delirium; the projected eye and contracted pupil became more marked; the pulse quicker and smaller; the cerebral symptoms thus appearing to increase with the remission of those of the knee and thigh, the size and tenderness of which were now completely reduced.

Leeches were now applied on the 6th, and again on the 10th, on the

shaven vertex of the head, where the heat was very marked.

Hydrarg. Chlorid., Squills, and Pulv. Ipecac. Co. of each 2 grains, were given 8vis horis from the 6th to the 10th; then bis quotidie to the 14th, when moderate salivation was established.

On the 15th, she had passed fæces in bed without notice, and continued to do so for some days. It was difficult, during this period of cerebral excitement, to prevent her getting out of bed, and wandering in the ward; she nursed her infant during the whole time with an ample quantity of milk.

On the 14th, a seton was ordered by me at the nape of the neck. From the time that a discharge from the seton commenced, the series of cerebral symptoms receded, and she continued with little excitement, no heat of head, a small but soft pulse of 100, to the beginning of August, the seton discharging freely.

The next form of symptoms that occurred was a highly congested state of the conjunctivæ of both eyes, with heat and pain. A collyrium of alum and zinc increased this; the application of five leeches removed it. These symptoms, I may observe, came on immediately on an attempt being made by me to give her a preparation of iron, which seemed indicated by her extreme depression of strength.

On the 9th of August I have recorded that she continued perfectly irrational, but free from excitement. Her strength had increased. Her manner at this time was very hysterical, laughing and crying without cause.

Her diet had varied with her symptoms, in regard to stimulants, but nutritious food in moderate quantities always had been allowed.

On the 11th of August, with no new medical measure, except the application of a blister, and immediately after this, the mind became much clearer, and more rational. The pulse fell to 80. The appetite and liking for food increased. This blister discharged very profusely. But with the return of her reason, and consequent efforts to help herself and her infant, another set of symptoms became obvious. Whether they had previously existed I am unable confidently to say: this was hemiplegia on the right side. And this has been the last development in the succession of symptoms. From that time to the present day (Nov. 18, 1843), the patient has been in a state of progressive improvement, including a rapid diminution of the hemiplegia. The improvement has extended to her articulation, which, it may be remembered, was defective from the beginning of the disorder; though this latter state has been improving slowly, the use of her limbs having completely returned for some weeks. On the 12th of Sept. I commenced a course of strychnia, the 12th of a grain three times a day; during the last three weeks it has been increased in frequency. Its use was intermitted for about a fortnight, and we observed that on its resumption the power of articulation increased more rapidly. This medicine produced its characteristic spasms. The patient wears now the appearance of very good health.

Whatever hypothesis we may form respecting the causation of the above disorder, and its possible connection with suppressed or deficient lochia, as above adverted to, the succession of symptoms here observed deserves attention. At first, with some cerebral disturbance, which continued in various degrees through the whole case, a corded femoral vein, with white œdema of the thigh, inflammatory swelling of the knee, and excited action of the femoral artery. On the formation of pus in the right knee, the action of the femoral artery, and the corded state of the vein, was reduced. On the cessation of this process, the symptoms of cerebral turgescence became more obvious. On their abatement, cotemporaneous with the action of a seton, the conjunctiva of both eyes became highly inflamed and painful. The state of hemiplegia next attracted attention, which certainly had not existed during the period of cerebral turgescence, heat, and fulness, under which the patient had walked firmly and steadily about the ward. Defective articulation existed throughout the whole progress of the case.

Now it is worthy of notice that the severe humoral disturbance which was present during a portion at least of this case, coexisted with mental symptoms and other evidences of nervous irritation, which might have given to this proteiform malady the *name*, and

assigned to it the *treatment* appropriated to hysteria, but for the obvious presence of that severe humoral disturbance. Even the care with which this person nursed her child, and avoided hurting it, during all the stages of the case, would have strongly favoured a suspicion of hysterical simulation, if definite symptoms had not evidenced the presence of inflammatory disease, however hysterical the diathesis of the patient. Perhaps I may adduce the readiness with which, on the 30th, the patient's strength gave way under depletion, as calculated to strengthen the imputation of hysteria.

The above views suggest the necessity of caution in our modes of applying certain very valuable doctrines of the present day as to the hysterical character of some local affections. For, whereas these doctrines tend to a soothing and tonic practice in such cases contemplated as hysterical, the narrative here given points out that the real disease may be, *not* an hysterical affection masked by an apparently inflammatory disorder, but an inflammatory disorder masked by the phenomena of the hysterical diathesis. An error of mischievous consequence may thus be induced in point of treatment.

[To be continued.]

ON THE

DIVISION OF MEDICAL LABOUR.

By Robert Hull, M.D.

(For the London Medical Gazette.)

On the Army Surgeon.

Some valuable letters have recently appeared on this subject. The medical men who are attached to the British army, furnish, undeniably, excellent models of therapeutic skill and gentlemanly bearing.

Surgery itself is heroical; concatenate with arms, it is peculiarly ennobling. In the most ancient and the most warlike times the army surgeon was held in honour.

Machaon and Podalirius are commonly imagined as the only medical practisers who accompanied the Grecian forces to the war of Troy; but, from a narrative in the eleventh book of the Iliad, it is clear that chirurgic officers were to be found elsewhere; for Idomeneus is represented as sallying forth, during a smart engagement, in which a friend had received a wound, and been conveyed to his hospitable quarters; but he did not go to the field until he had secured for his confederate surgical aid:—

———ὁ δ' ἰητροῖς ἐπιτείλας
Ἥιεν ἐκ κλισίης———

The popularity of Machaon and his brother were due perhaps, in some degree, to their rank. They were general officers as well as medici, and furnished a large quota of fighting men. Look at the number of their transport vessels; according to the statement of Dares, "Podalirius et Machaon Æsculapii filii ex Tricâ Navibus xxxii."

The honours paid to Surgeon Machaon are strongly depicted in the fourth Iliad. Menelaus is wounded, and his brother, the Commander-in-chief, dispatches an aid-de-camp to the great operator; he—

"——— finds Machaon, where sublime he stands
In arms, encircled with his native bands.
The heavy tidings griev'd the godlike man;
Swift to his succour through the ranks he ran;
Then suck'd the blood, and sovereign balm infus'd,
Which Chiron gave, and Esculapius us'd."

But the general interest felt for Machaon is farther displayed in the eleventh book. Here Machaon himself is wounded; and so respected was this soldier-surgeon, that the oldest general in the army was requested to turn his war-chariot into an *ambulance volante*, and convey the wounded hero to the rear.

"To Nestor then Idomeneus begun;
Glory of Greece, old Neleus' valiant son!
Ascend thy chariot, haste with speed away,
And great Machaon to the ships convey.
A wise chirurgeon, skill'd our wounds to heal,
Is more than armies to the public weal."

Even Achilles, who was then labouring under a fit of the spleen—who, it was suspected, inwardly rejoiced at Grecian discomfiture—was touched at the spectacle of the wounded surgeon, whom Nestor was conducting.

"Go now to Nestor, and from him be taught
What wounded warrior late his chariot brought:
For, seen at distance, and but seen behind,
His form recall'd Machaon to my mind."

Patroclus, recognising the surgeon, exclaims—

"With grief I see the great Machaon bleeds."

It is impossible not to give the chirurgic warrior the meed of superior courage. The simple soldier has but general ideas of wounds and death. The anatomist, conversant with the machinery of the human frame, sees,

with his mind's eye, the infinite chances of dissolution. The layman calculates on the chances of escape; the heart and the great vessels, the brain and the big nerves, the hollow viscera, once opened, never to be closed, are, and must ever be, present to the military surgeon.

The tendency of anatomical knowledge is obviously to make the operator trepidant when his own fabric requires the knife. No men seek to avoid pain with more anxiety than those who professionally inflict it; but the warrior-surgeon, in spite of his professional trepidation, encounters the extreme of danger with the extreme of science and of courage.

The merit of those admirable men, who have in any, or in every, army performed their chirurgic duties within range of shot, exposed to the sabre and the bayonet, has yet to be recorded. Some distinct history is wanted of army-surgeons, which would be as interesting as it is demanded for literature.

In military practice the division of labour seems imperatively to be required. It has been asserted that he who operates on the wounded warrior is also the proper man to decide on healthy positions, on epidemic maladies, on corrupt provisions; that he *must* be a physician. But are not surgeons *mainly* required in the day of battle? are the men whose enthusiasm and prowess are chiefly *medical* the fittest Ἰητροι for the great business of the Nile or of Waterloo? "We are not always fighting. None but mocks imagine the soldier with his sword ever unsheathed." This is true; but, as armies are expressly raised for fighting, surely when the business is begun, there are wanted the men of business—masters of surgery. The operations of civil life are performed at leisure, with friends and auxiliaries around, without distraction. The surgery of war is called for on a sudden, with infinite variations; for cases never detailed by the teacher, never exemplified in books: the operator must be independent, losing no time, fearless of personal mutilation, braving his own death. Deeply versed in anatomy, practised in operations, unterrified by blood—prompt, instant to repress it, through a knowledge of every artery, he must be not a *doctor*, but a *doer*.

The medical degree is no test of handwork; it implies a preponderance of physic over surgical education; yet in our present Army Lists the physical diploma gives commonly a title to the regimental surgeon. I do not say that the Director's preference of this class of gentlemen is not, abstractedly, laudable, tending to raise, among the combatant officers, the medical character.

But, pleasant as may be the working of the system in the British forces, is there any fear lest, in civil life, the division of labour should be damaged thereby? lest the retiring soldier should carry with him his general practice, still using his physical degree? This remains to be shewn: as yet the system has not been tried long enough to prophecy its effects on civil practice; as yet, I believe, no harm has accrued, at least in England. The militant doctor, when he settles in social quietude, when no longer

> —— castra juvant et lituo tribæ
> Permistus sonitus ——————

practises as a pure physician. He concords, as a gentleman, with the usages of the civil profession, exquisitely sensitive lest he should err in the slightest manner. He is, perhaps, a "Peninsular man," whose experience of grand operations gives him a just confidence that if he *chooses* to practise civil surgery, still sporting his medical prefix, he may realise a fortune. And why does he abstain? Because it would be irregular; hostile to discipline, which in the army he has admired and obeyed; hostile to the τὸ πρέπον; "shabby." Perhaps he fixes his abode in a provincial city, with a hospital in its precinct, of whose vacant offices he may have a choice, surgical or medical. Does he covet the chirurgical appointment, still maintaining his physician's title? No! Will he undertake, will he canvass for, the vacant place of physician, secretly intending to operate in private practice? Neither! a physician is he who practises physic. This latter situation is meant, in *all* hospitals, for the physician; that is, not for the general practitioner. A doctor who practises surgery is a general practitioner; and the soldier physician, not inquiring the readiest road to lucre, but what is expected from him as a gentleman, drops his lancet with his sword, and, in the hospital, elected physician, out of it he practises purely physic.

For myself, I entertain no fear lest

the military physician should lose his self-approbation, forget his delicate sense of honour, and usurp a position purely medical, unless his practice be that of purest medicine.

Years have elapsed since John Bell commended the army to the young practitioner as a school for polishing and dignifying the man; and every year's experience—peace or war, home or abroad—has verified the wisdom of his eulogy. Never, with such becoming examples of manners and conduct as our medical soldiers display, never would I second the effeminate cry—cedant arma togæ.

But, although the confusion of departments will not be produced by army physicians, it is occasionally created by men who have never been disciplined in camps, and the question has been put in some quarters, what is the professional etiquette due towards doctors who practise surgery? The question meets a more easy reply. They are general practitioners: and, whatever is the relation of these gentlemen, in that precisely they stand. There is but physic and surgery, and he who practises both is the general practitioner. "How!" exclaims the pert patronus of the London University, "I am a doctor medicinæ and a magister chirurgiæ!" Yes; and your rival is a Licentiate of the Apothecaries', and a member of Surgeons' Hall; you both practise generally. The College of Surgeons, the Apothecaries' Society, are amply competent to license the general practitioner: and when we meet with gentlemen endowed with their diplomata, we encounter men whose titles to confidence are known and legitimate: all other qualifications for general practice may be good, or may be insignificant. It is not what a man is called, but what he does. It is not academic honours—Blucher was an Oxford Doctor of Laws; so is the Duke. But they do not practise law. Their forte is the sword; and deeply do I wish that their triumphant victories over national *irregulars* could be imitated in our profession; and that every charlatan, ignorant or educated, were sent, as he ought to be, to the black-hole. The position of the doctor practising generally is that of the general practitioner; and, however the public may be mystified by such a personage, the profession has a clear duty to perform.

If the pure physician is requested to meet in consultation such an "hermaphrodite," called in "over him," he may decline a meeting with him as a general practitioner. If the pure surgeon is solicited to consult with him, his plea is the same; and if the plain general practitioner is expected to confer, he may reply, "The title of Doctor is nothing to me, Dr. Omnibus is no more than I am; if the case is medical, I will only meet a pure physician; but if the case be surgical, it is the pure surgeon whom I should wish to consult."

It is of no use to wink at the fact that this kind of spurious physician is becoming endemic. Diplomata are purchased for a song, in Germany, and their English buyers practise "generally" in cities and in villages. Even British degrees are disgraced in a similar manner; and it is time to let the profession—the public are as ignorant as possible—clear away the mist that surrounds the subject, and see that the practice makes the practitioner; and that they must treat the graduate like the plain man, if he generalizes. Above all, the laws of the different hospitals should define verbally what is meant by the term physician; for, although the meaning is understood by all governors, and respected by all fastidious candidates, it is certain that in some hospitals a general practitioner has walked into the pure physician's office—excluding more sensitive and more dutiful men.

But I repeat, that in these days of danger to divided labour, of danger to discipline, decorum, dignity, the army men are the very class from whom there is the least to fear, the most to hope.

But, whilst the civil practitioner is confident in the tact and conservatism of the military physician, he has a duty to perform towards his regimental brethren. If he thinks of his own peace and happiness, he should endeavour to subserve his professional brothers in arms. The Director-General has done wonders to secure their comfort, to maintain their dignity, to secure their efficiency, to advance their science. But they have their gravamina. One of them is their compulsion to make an official, an universal, a periodic inspectio pudendorum. This is a monstrous indelicacy; it is felt to be such: it is deprecated in private talk: it is *not* deplored at head quarters. A

civilian may fearlessly denounce what a soldier must not, through a sense of discipline, deprecate. But the man who has no further connection with the army than that of every true Englishman who admires and loves it, may with duty, as well as philanthropy, assert that the practice is a disgrace to our profession, an insult on human nature; and requiring no counter-argumentation, save the inborn feelings of our race; and if no better proceeding, such as severe punition on discovery of concealed disease, can be invented, it is better to brave any consequences than oppose the natural, heaven-born sentiments, which, in every age and country, are respected.

Norwich, March 13, 1844.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Caloric: its Mechanical, Chemical, and Vital Agencies in the Phenomena of Nature. By SAMUEL L. METCALFE, M.D. of Transylvania University. 2 vols. pp. xix. and 1100. Pickering.

(Third Analytical Notice.)

IT rarely happens to us, in our critical capacity, to have a work which we cannot finish off at a single sitting. If our readers have followed us in the two notices of this work on Thermotics —the only one extant—we feel assured that they will not grudge us the space which we still find necessary to give some account of the author's views on the important subject of pathology. It is, after all, a thousand times more gratifying to our editorial feelings to have a book before us which we can laud heartily, and recur to again and again with renewed pleasure, than to find ourselves with inanity and imbecility upon our critical tormentors. We linger over this book of Dr. Metcalfe's loth to part, and must once more confirm our grasp of his hand for a moment, before we finally quit it, to show him in what estimation we hold his labours, and whilst we place before our brethren views that we cannot but consider of high importance to the progress and successful practice of our art.

The most important chapter in the second volume of the work is that which the author devotes to the obscure phenomena of secretion, nutrition, and waste; regarded by Cuvier, Bichat, and others, as the greatest mysteries of the animal physiology. In accordance with his general position, that animal heat is evolved in the lungs, and not in the systemic capillaries, as supposed by many, Dr. Metcalfe maintains that a difference between the temperature of the arterial blood and that of the solids is absolutely essential to all the operations of the animal economy, and that without the perpetual transition of caloric from the one to the other, there could be no union of the blood with the several tissues of the body; that animal heat is no less the cause of nutrition and muscular motion than is solar caloric the cause of all the chemical and vital combinations on which the growth of plants depends; that as the power and velocity of a steam-carriage depend primarily on the amount of caloric imparted to a given quantity of water in the boiler in a given time, so is the locomotive power of animals determined by the amount of the same active principle that is imparted to the blood in the lungs, and thence to all parts of the body. Nor is it more remarkable that this should be so, than that the velocity of planets through their orbits, like the various transmutations which make up the drama of nature, should be, as they certainly are, directly in proportion to the heating influence of the sun (pp. 666—676.)

But as it is an invariable law of nature that the cause of force is expended in producing motion, the caloric which is employed in uniting the proximate constituents of arterial blood with the different organs, and in maintaining their healthy activity, is carried off and removed from the body with a rapidity corresponding with the energy of the brain, muscles, stomach, &c., until the vital affinities by which the molecules of the blood are transferred to, and kept in a state of combination with, the solids, are gradually diminished, and finally dissolved—when, having performed the office of renewing the structure and vitality of the different tissues, the said molecules successively fall from their places and are taken up by the lymphatic absorbents, which convey them to the general circulation, to be again renovated in the lungs, in which they were originally

formed, and thence finally removed from the system by the several enunctories as worn-out materials; while their places are immediately taken by fresh organic particles, which are continually supplied from the living fountain of arterial blood. Thus we perceive that the vital energy of all the organs, or their power of resisting the laws of dead matter, depends on the rapidity with which their composition is renewed; which, in its turn, depends on the amount of caloric that passes through them in a given time: that it is because more caloric is received from the atmosphere, and more blood generated in the lungs of warm than of cold-blooded animals, that the composition of the former is renewed more rapidly, their organization more highly developed, and all the powers of life greater; that whenever the nutritive properties of the blood are so far impaired, by whatever cause, that it is no longer in a condition to unite with the tissues, and replace the worn-out particles with living ones, emaciation ensues, and all the powers of life decay (pp. 677—8.)

But to illustrate fully these new and curious views of nutrition, it would be requisite to extract the whole of our author's chapter on the subject; and to show the various applications of this theory to pathology and therapeutics would require a separate volume. In accordance with the foregoing doctrines, however, Dr. Metcalfe maintains that every action of every organ is attended with a loss of its vital heat, and of its substance, and that this is the reason why the brain, senses, and voluntary muscles, are exhausted by violent action, and even by moderate exercise, when their energy is not recruited by sleep; that the proximate cause of *fatigue*, *hunger*, and *sleep*, is, that the substance and vital heat of the body are expended more rapidly by exercise than they are renewed by respiration and nutrition; that it is owing to this expenditure of animal heat by exertion that the body is proportionally weakened and rendered more susceptible of disease from exposure to cold after fatigue than at other times; that the specific office of sleep is to restore the substance and vital energy which have been expended by exercise; and that the principal difference between them is, that during exercise the expenditure exceeds the income; whereas during sleep the income exceeds the expenditure (pp. 883, and 942.)

"In the theory of nutrition," says our author, "is to be sought the explanation of the proximate cause of all diseases; for if the blood be the fountain of life, from which all the organs are immediately formed, it follows, that whatever impairs its natural properties, must derange the nutritive process by which the healthy condition of the body is maintained. Nor is it possible that disease of the stomach, brain, or any other organ, could exist for any length of time, while supplied with a sufficient amount of good arterial blood; because if the latter be sound and healthy, so must be its products. But when so far deranged that its power of uniting with the solids, and of maintaining the various secretions, is seriously diminished, a portion of the caloric obtained by respiration, that is, transferred to the solids during health, and employed in carrying on the functions, is given out in the free state, or rather accumulated in the blood, causing a preternatural elevation of temperature, and a corresponding loss of power in the general system. In other words, so long as the vital warmth received in the lungs is employed in combining the proximate constituents of the blood with the solids, and in elaborating the various secretions, the temperature of the body remains at the natural standard; all the functions are performed with pleasurable regularity, and there is no preternatural or morbid accumulation of heat. Here is a key to the whole theory of fever, which depends essentially on a diminution and derangement of the formative process, as shown by the rapid emaciation that takes place during its progress, and which always terminates on the restoration of secretion and nutrition." (p. 683-4).

With this clue, Dr. Metcalfe proceeds to give the rationale of fever, and all its leading symptoms — an achievement that has been regarded by many of the most distinguished pathologists as hopeless—chiefly owing, as our author thinks, to the unsettled opinions of the profession in regard to the mode in which animal heat is obtained in health; and more especially to the fact, that medical authors have almost entirely overlooked the *agency* of caloric in the economy

of animal life; as admitted by Drs. Southwood Smith, J. Johnson, Alison, Tweedie, Bright and Addison, with many other living writers. And Dr. George Gregory observes, that "if we cannot unfold the nature of the healthy vital actions, it is not surprising that pathologists have failed in explaining those which occur in disease." (Theory and Practice of Physic, p. 164). In the work before us, the author has established the fundamental doctrine, that *all the remote or predisposing, and exciting causes of fever,* (as indeed of all other constitutional maladies,) *tend to diminish respiration, and thus to impair the vital properties of the blood.* For example, in all the higher animals, respiration is diminished by an elevated external temperature, which, also, tends to raise that of the solids nearly to an equilibrium with the temperature of the arterial blood; and thus to diminish the nutritive process, the activity of which is in proportion to the natural difference between the temperature of arterial blood and that of the solids. Hence it is, that although caloric is assumed to be the physical cause of all the vital forces, they are diminished by the hot bath, and by the elevated temperature of hot climates. Yet the author maintains that in all cases of languid circulation there is nothing so efficacious and pleasant as the due and well-directed employment of that agent on which all the operations of life depend, viz. caloric. Dr. Metcalfe has also shown that respiration is no less certainly diminished, and the natural condition of the blood impaired, by the depressing passions, mechanical injuries, &c., than by impure air, and improper or insufficient nourishment; in short, that every variety of fever is ushered in by either a deficient supply of animal heat by respiration, the abstraction of heat by external cold, (especially when combined with moisture), or its undue expenditure by exertion; and that such are the principal causes of all constitutional diseases.

He then lays it down as an axiom, that the first prominent link in the chain of morbid phenomena which constitute fever is what is usually called a chill, the most general exciting cause of which is external cold, after the powers of life have been weakened by some of the predisposing causes above enumerated. The consequences of the cold stage are languid circulation, a small and feeble pulse, a pallid or livid hue of the surface, a shrinking of the features and extremities, a torpor of the bowels, a stoppage of perspiration, and a diminution or vitiation of all the secretions. Owing to the slowness with which the blood is sent through the lungs, and the diminished amount of respiration, the nutritive properties of the blood are still further impaired, and matters are made worse by the retention of the secretions. As the brain, spinal marrow, nerves, and muscles, are no longer supplied with good arterial blood, there is a loss of sensibility, impaired memory, confusion of thought, head-ache, and stupor, together with pains in the back and limbs, not unlike the aching sensations produced by the loss of animal heat from over exertion, or from sitting long in a cold room; but with this difference, that in the former case they are more permanent and difficult to remove, because owing to a radical derangement in the vital properties of the blood. And as the stomach is no longer supplied with good blood, the secretion of gastric juice is arrested, so that there is loss of appetite, nausea, and other gastric symptoms.

But as the process of breathing, although much impeded, is still carried on during the cold stage, and as very little of the heat thus obtained is employed in combining the blood with the solids, in elaborating the secretions, and maintaining the general forces of life, it gradually accumulates until the hot stage is formed. The consequence of this augmented temperature is, that the action of the heart is increased, by which a larger amount of blood is sent through the lungs, and more caloric is obtained by respiration, than even during health, the tendency of which is to improve the vital properties of the blood, which is now changed to a florid hue, and being sent freely to all parts of the body, the secretions are restored, which, together with the caloric which had accumulated, are carried off through those natural sewers, the skin, kidneys, bowels, &c., when the sweating stage puts an end to the paroxysm. Such is a very brief account of Dr. Metcalfe's explanation of the leading phenomena of intermittent fever, which he regards as merely a milder form of

continued fever, whether denominated typhus, synocha, plague, or yellow fever.

We regret that our limits do not permit us to give a further analysis of the author's pathological views; but those who are interested in the subject will find that he has, for the first time in the history of medicine, explained why in one case fever assumes the quartan type, in others the tertian, in others the quotidian, in others again the continued form; and why, in all of them, the duration of the cold stage is inversely as that of the hot. We would also recommmend to the careful attention of our readers that portion of the work which treats of the influence of climate on the stature, form, colour, and general character, of the human race; especially the chapter on the manner in which diseases are modified by climate and season—a chapter in which some exceedingly important observations will be found on the rationale of pulmonary affections, the nature of malaria, and the general laws of epidemics. He has likewise offered some very original and striking remarks on the *modus operandi* of medicines, poisons, &c.; and, in his chapter on Diet, the reader will find a searching criticism of the doctrines of Liebig, some of whose views of respiration, nutrition, and waste, are powerfully controverted. We close this article with a few of Dr. Metcalfe's summary conclusions, contained in his concluding chapter.

1. That the primary seat of fever is not the brain, spinal marrow, ganglionic nerves, the solar plexus, the stomach and bowels, Peyer's glands, nor any other particular organ, but all parts of the body, and especially the blood, which is the life of the solids, as maintained by Moses, Hippocrates, and Harvey, the alpha and omega of health.

2. That the whole theory of medicine must be founded on a knowledge of the mode in which the animating principle operates in health, and of all the agents that diminish, augment, or in any way modify, the functions of respiration, sanguification, secretion, nutrition, sensation, and muscular motion.

3. That the celebrated *vis medicatrix naturæ* is only a general term, designating the natural action of all the organs, and depends on the principle of life itself, which converts food into blood, fashions every part of the body, renews its composition when wasted by the actions alike of health and of disease, and which connects all the organs into one harmonious system, and maintains it in health through the long period of 70, 80, 90, or 100 years.

4, and finally, that when the science of healing shall have arrived at perfection, it will be found to consist chiefly in the art of employing those agents on which the operations of life constantly depend; in other words, in making the organizing principle by which the body is formed, the grand instrument of its preservation in health, and of its restoration when diseased.

In conclusion, and for our own part, we beg to recommend Dr. Metcalfe's work in the strongest terms, not only to our professional brethren, but to all who take interest in the progress of physical science. It is one the like of which only comes from the press at rare and distant intervals. Based upon the most comprehensive knowledge of all the phenomena of nature, it illustrates in the most admirable manner the simplicity and the harmony of the laws by which, in time, the Creator commanded the universe to appear, by which he fashioned its parts, and by which, in unabated force, he maintains them severally in their integrity. It is a work, indeed, of sublime scope, and, rightly taken, of the noblest tendency. It is the truest specimen, and most successful achievement, of that which the late Earl of Bridgewater had in view, when he left a sum of money for the purchase and publication of a series of treatises illustrative of the wisdom and goodness of God in creation. But it has the great advantage over any treatise which could be obtained under such circumstances, that it is not "written to order." It is the spontaneous effusion of the gifted mind, brimful of knowledge, and tinctured itself with the hallowed fire of poetry. Whoever possesses the Bridgewater Treatises must add this work of Dr. Metcalfe as a kind of necessary complement to the series—as the crown of the whole idea.

Elements of Comparative Anatomy, designed especially for the use of Students. By RUDOLPH WAGNER, M.D. Professor of Comparative Anatomy and Physiology, Göttingen, &c. From the German by Alfred Tulk, M.R.C.S. (PART I. *Mammalia.* PART II. *Birds.*)

THE name of Rudolph Wagner is already familiar to the profession of this country, from the practical knowledge of physiology and comparative anatomy displayed in his valuable works on these subjects, one of which, the Elements of Physiology, has been so ably translated by Dr. Willis. The Lehrbuch der Zootomie, or Elements of Comparative Anatomy, having lately arrived at a second edition in Germany, Mr. Tulk has been induced, from the high standing which the work has obtained in that country, to bring out the present translation, without making any alteration, or even adding any new matter to the original text.

The plan of publishing the work in parts, each complete in itself, is a very good one, and judging from the two parts which have already appeared, the style and views of the author are well carried out. We are fully satisfied as to the great utility of the work to anatomical students, and to recommend it to them and to the profession generally as one of the best text-books that has lately been published.

The next part of the work will comprise the comparative anatomy of the amphibia; the fourth part will take in the fishes; and the fifth and sixth will comprehend the avertebrata. The work is not only highly practical and full in its information on the interesting department of natural science of which it treats, but is also one of the cheapest of scientific publications. Let every student make this work the companion of the approaching holidays.

MEDICAL GAZETTE.

Friday, June 21, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

MEDICAL INSTITUTIONS BILL.

IT is even as we ventured to surmise it would be in our last week's number:—The Medical Institutions Bill, we are informed on good authority, will not be brought forward this session. This decision on the part of the Home Secretary we lament extremely. We should have been sorry, indeed, to have seen a measure for the regulation of the medical profession forced through the Houses of Parliament without the concurrence of the majority of its members; but the unsettled state of all our medical institutions at the present moment, makes us much regret that we are not to have an official announcement of the principles which Sir James Graham had thought of taking for his guide in remodelling them. Had the bill been only *introduced* during the present session, it would have been highly satisfactory to the profession. We should then have had ample leisure to consider and to canvass its proposed enactments; we should have had an opportunity of expressing an opinion for or against its several provisions, and we think that the majority of the profession would have been able to let Sir James Graham know what were its wishes, what it believed to be its wants.

This medical bill, however, is, after all, rather of a particular and private, than of a general and public nature; it is so, at all events, in reference to those who are already members of the medical profession; and we presume that the Minister and Parliament will be disposed to consider it in the same way as they do private bills. Its provisions must in the end, and to a very considerable extent, be made matter of arrangement among the members of the medical profession, and the councils and governing bodies of the Colleges to which they severally belong. The government, as it has the unquestionable right, so will it do well and wisely, to interfere to the extent that may be necessary to secure highly educated and competent medical advisers for the community; so much

seems absolutely necessary; the poor have now no choice of their medical attendant; he is the officer of the guardians of unions; and government must require of them that they select men with a certain amount of qualification at least. The institution or institutions into whose hands it puts the business of carrying out its intentions in this direction it may designate, and instruct as to its wishes; but we apprehend that the constitution and administration of those institutions, in so far as the privileges of their members are concerned, must be left for settlement among themselves. It would not do to treat the medical body as they do children, or as the drill-serjeant does a certain number of rank-and-file of raw recruits. The majority of the medical body must be carried along with the authorities, in order to give stability to any enactment in which they are comprehended.

Could we hope that our weak voice might reach the ear of the Home Secretary, we should entreat him to expose officially the provisions of the bill or bills which he thought of introducing for the regulation of the medical profession during the present session of Parliament. His only purpose, his only wish, must be to pacify us—if that be possible—and he can only succeed in doing this by carrying the men of highest acquirement among us along with him in his measures. We are all alike tossed upon a sea of uncertainty and doubt at present; we are like a convoy ignorant of signals, or having no commodore, some sailing east, and some sailing west, every one running foul of another, though all have it in view to steer for and attain the far-off haven at last. Let us have a clear perception of what it is proposed to do with us; and we have tongues and pens that will soon give Sir James Graham to wit as to the mind in which we receive his interference.

We have more than one article on the subject of medical reform in our portfolio, which we have been keeping by us until we saw whether we were to have the Minister's measure or not. Various sections or classes of the profession have also given utterance in our contemporaries to their sentiments on the subject. The articles alluded to we shall now publish, and by and by shall take an opportunity of collating all that has been emitted on the topic, and try if any thing like the will and wish of the majority of the profession can be elicited from the chaos in which it now lies involved.

CRITICISM.

How difficult it is to be just! See what the critic in a late No. of a respectable American medical periodical says, in reviewing a work of Dr. Chapman: "This is a work that belongs to the medical classics. Written in a precise, polished, and energetic style, this production can be read with the purest pleasure. How different are its pages from the diffuse, involved, obscure, and saturnine language of many medical authors!" This is plain enough; but mark what follows: "At the same time it is often amusing to see with what determined pertinacity our distinguished author *will invariably invert every sentence and all its subordinate parts!*"

Would our readers like a specimen of the work be-praised and be-damned as above? Here is the very first paragraph that is quoted—the italics are ours: "Certain climates and *locations* have great influence on the production of phthisis. It is undeniable that while the hyperborean and torrid regions comparatively escape this severe scourge, *it is* the medium *latitudes*, when moist and chilly, and especially *a residence in overgrown cities*, or along the sea coast, that *generates* the consumptive diathesis. The British Isles, which *answer to this description*, are singularly exposed *to the disease;* and London more than the smaller towns, *the country being much less so*, except on the margin of the sea." There are polish and energy, grammar and connection, with a vengeance!

But it is next to impossible to be just

in book and professional criticism. It is pleasant heartily to praise; but then there is so little opportunity for praising heartily—it is only now and then that we can diet upon pine-apple pie, and eat green peas at the rate of a shilling a piece—the price of course enhancing the savour immensely. Having occasion to find fault, it is also extremely difficult to keep within bounds—ink is a dangerous compound—gall and steel flow from the pen and enter the soul of perhaps a friend, without the hand that guides the implement taking note of what it is about; these steel pens, too, have "uncommon sharp points," and we for our editorial part are resolved to lay them aside, save and except for quackery and imposition. We shall also recommend goose-quills to our critical friends henceforth. Quacks and impostors we shall hold up to scorn, and we shall treat them to steel pens; positively bad books we shall *denounce;* indifferent or unworthy books by professional brethren we shall *ignore;* good books we shall *analyse and laud.* Let our friends take this as the rule of our conduct in future.

ON THE USE OF THE SUPRA-RENAL GLANDS; AND ON FATTY MATTER.

The following are some of the results of Mr. Gulliver's inquiries concerning the supra-renal glands:—

The secretion of these glands is characterized by an abundance of minute molecules, as described in his Appendix to Gerber's Anatomy, p. 103, et seq. These are analogous to the cytoblasts or nucleoli of various corpuscles or cells, analyses of which are given in Mr. Gulliver's Notes to Dr. Boyd's Cases, Edin. Med. and Surg. Journal, No. 156.

The molecules are often found in the blood; and very abundantly in the veins of the supra-renal glands.

The molecules appear to be free nucleoli or cytoblasts, concerned in the growth, nourishment, and probably the reparation of the tissues.

Accordingly, the supra-renal glands are very large, plump, and juicy, at that early period of life which is the most remarkable for activity of growth and nourishment, and for the production of new cells; so that, at the period in question, a vast quantity of the molecules is furnished by the glands.

The size of the glands is connected with the lean or fat state of the individual; hence they would appear to furnish fat. They are much larger in healthy well-nourished infants than in those in the opposite condition. The same rule applies to adults. In emaciated subjects the supra-renal glands are dwindled as much or more, relatively, than the body; and in well-fed or fat subjects the glands are comparatively large.

Contrary to the general opinion (for example, of Meckel, Manuel d'Anatomie, par Jourdan et Breschet, tom. iii., p. 592; and Bichat, Anatomie Descriptive, tom. v., p. 462), the supra-renal glands are not more wasted in old age than the other organs; and in some mammalia the glands are larger in adults than in fœtal and young sucking animals of the same species.

The identity of the molecules of the supra-renal glands with the molecules included in cells, and with the free nucleoli or cytoblasts, will be immediately seen by comparing the form, size, and chemical characters of all these objects, which are, in short, the same as the fatty elementary granules of Henle.

As the origin of a cell, and therefore of growth, reproduction, and reparation, is a minute molecule of fatty matter; so it is curious that there is a proneness to the formation of fatty matter in decay; in other words, there is a retrogression to the fatty state.

The molecular base of the chyle (see note to Gerber's Anatomy, p. 56, and Appendix to same, p. 89) is a congeries of the minutest oily particles; a similar particle, a little enlarged, and with an albuminous pellicle, becomes the seed, as it were, of a cell.

A fatty degeneration of the arteries is the common decay of old people. Fatty matter accumulates in the seminal tubes of aged subjects; it does so very remarkably in softened fibrine; in old blood clots, especially of the brain; in the dull brown coloured and emphysematous portions of the lungs of consumptive patients; in brown or lead-coloured consolidation of the lung; in old purulent fluid; and in many other cases, some of which are given in Mr. Gulliver's papers in the Medico-Chirurgical Transactions, Vol. 26; and Edin. Med. and Surg. Journal, No. 156. Finally, fatty matter is very abundant in crude and softened tubercle, a fact noticed by Dr. Charles J. B. Williams (Principles of Medicine, p. 305) as possibly connected with the greasy state of the liver in phthisis.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, June 18th, 1844.

The President in the Chair.

Two Cases of Tubular Expectoration from the Bronchi in the Adult. By James Reid, M.D. Communicated by Sir James Clark, Bart.

The author commences by observing that there are few cases of this disease placed on

record, either by foreign authors or those of our own country. Dr. Watson, in his lately published lectures, has mentioned two cases (one of which is detailed in this paper), and remarks that none similar had before fallen under his notice.

The author's first case was that of a lady, æt. 28, who had an attack of bronchitis in Dec. 1836, which yielded to the usual means, leaving behind, however, a chronic cough. In February 1837, after having suffered severely from a sense of suffocation, she coughed up, with froth and mucus tinged with blood, several arborescent membranous substances, resembling casts of the minute bronchial tubes. This substance continued to be expectorated for several days, to the great relief of the breathing. She had recurrence of these attacks five or six times, at intervals varying from one to six weeks. The patient became emaciated, her general health suffered, and there was great dyspnœa. A residence in Devon restored her; but on her return to London, in October, she had an attack of dyspnœa, much more severe than the former ones. This was followed by the expectoration of the arborescent substance in much larger quantity and of a firmer consistence than before. A discharge of blood always accompanied it, but never to much extent. The patient had no return of the complaint after this, but died in December 1841, of a disease unconnected with the chest.

The second case was that of a robust healthy man, in the prime of life, who had complained, for two years, of uneasy sensations about the throat and fauces, and of there being something which he wished to cough up. In April 1840 he had a violent paroxysm of coughing, lasting for half an hour, after which the voice remained husky, and there was a ringing cough, and a sense of uneasiness at the upper part of the sternum. He recovered from these symptoms, but had occasionally cough and expectoration of mucus. In Feb. 1841, a sudden and rather profuse attack of hœmoptysis came on without effort. It was, however, soon followed by a convulsive cough, when arborescent flesh-like substances were brought up with great relief. The patient was bled to fainting on the first occurrence of the hæmorrhage, and a moderate antiphlogistic treatment adopted. He soon recovered, but the hæmorrhage recurred, and several portions of tubular substance resembling plastic casts of the extreme bronchial tubes were coughed up. On Dec. 19th, 1841, this patient had another attack of slight hæmorrhage, followed by the expectoration of a large quantity of the tubular substance; and on four or five occasions during the subsequent ten days there was a return of the hæmorrhage, and various portions of tubular substance of different sizes were coughed up. In this attack the treatment was not so active as before: expectorants, a light diet, and cooling drinks, were found sufficient. Up to the present time (nearly two years) there has been no return of the disease.

The author dwells at some length on the general character of the disease in question; he thinks the cause of it may be most probably a specific chronic inflammation of the mucous membrane, altering the natural secretion, and replacing it by one similar to that produced by serous membranes.

The *prognosis* he considers may generally be favourable, provided there be no complication; and also that the two larger bronchi be not simultaneously affected. Cases are alluded to from Tulpius, Morgagni, and De Haen, in which there was complication with phthisis, peripneumonia, and pleurisy.

He concludes by some observations on the *treatment*, and remarks that vigorous discipline does not seem necessary, and he thinks he fell into error in his second case.

He believes that general bleeding will seldom be required, and that only where there is congestion of the lungs. Mercury and iodine proved of little service in his cases; and he should in future be disposed to rely more on mild expectorants and a light diet than on an active treatment.

Dr. Copland thought it fair to say, that the cases described by Dr. Reid were not those of a new and but little known disease, as might be imagined from the introductory remarks of the paper; indeed, the author had himself disproved their rarity by the many cases which he had quoted from others in the body of the paper. The disease was in fact not very infrequent. Many cases would be found recorded in the various periodicals. While conducting a journal himself, several cases had been transmitted to him for insertion, and the affection described by Dr. Reid was always alluded to by those writers who specially treated of diseases of the bronchi, in evidence of which he might refer to the article Diseases of the Bronchi, in his Dictionary of Practical Medicine.

Mr. Lloyd rose, but gave way upon the Secretary calling upon Mr. Bainbridge to relate the particulars of a case from which a preparation on the table bearing on this subject had been obtained. It was taken from a female, who near the end of pregnancy was seized with symptoms resembling croup, of an acute character. She was bled to forty ounces, leeched over the throat, &c. and when apparently going on well, and while eating an orange, suddenly died from suffocation: one of the pips had passed into the larynx, and producing spasm of the glottis, had caused her death. The preparation appeared to us to show deposit of false

membranes over the larger and smaller branches of the bronchi to a very great extent.

Mr. Lloyd gave the history of two cases where tubular formations were discharged from the bronchi, in one of which he had the opportunity of witnessing its disposition to recur after the lapse of eight or nine years. He also alluded to the analogous formations from the mucous membrane of the bowels.

Mr. B. B. Cooper inquired as to the mode of recognising whether these membranes came from the large or small intestines.

Dr. Stewart had observed the occurrence in the bowels, and also a disposition to this membranous formation in the primary and terminal branches of the bronchi, in inspecting the bodies of persons who had died from fever.

Dr. Hocken related a case of retention of urine in a female, a patient of Mr. Whidborne, of Queen Square, in whom the mucous membrane of the tongue and cheeks became the subject of this membranous exudation in a remarkable manner, after the exhibition of four grains of calomel given in two doses. The patient, however, recovered in a very satisfactory manner.

A Member detailed a case where excrescences from the larynx produced symptoms that might easily be, and in fact were, referred to chronic croup as their cause.

The conversation on this case was terminated by Dr. Webster regretting the absence of the author of the paper, as it precluded the Society from obtaining any further particulars of the cases, and especially information regarding the state of the bronchi in the patient, who died years after from other causes; a circumstance which he thought very essential to the complete description of the disease.

On the Introduction of the Solutions of Lead into the Bladder for the Decomposition of Phosphatic Calculi. By S. Elliott Hoskins, M.D. F.R.S. Communicated by William Prout, M.D. F.R.S.

The object of this paper was to illustrate, by the details of six cases, the benefits which may be expected to arise from injecting weak solutions of certain salts of lead into the bladder, for the decomposition of phosphatic calculi, on principles explained by the author in a paper communicated last year to the Royal Society. These salts act in destroying the concretions, by a process of double decomposition; whereby the active agent of the decomponent is liberated gradually, and neutralized by the earthy basis of the calculus, before it can come in contact with the living tissues; and the solutions are therefore easily borne as injections by the coats of the bladder. The salt which he first employed was the nitro-saccharate of lead, but he has since substituted the acetate; and he describes the particular mode of using it.

The experience of the cases which he records, establishes, he thinks, two facts; first, that the presence of the injection is tolerated by the bladder, and that it even acts as a sedative, besides coagulating the mucus, so abundantly formed in these cases, into short curdy flakes, easily passed through the urethra; and secondly, that a chemical action takes place on the calculi. He believes that where surgical operation is inadmissible, this plan of treatment will be of avail, for relief, if not for cure; for smoothing away asperities, and removing the outward phosphatic coating of calculi, so as to bring them within the range of the crushing forceps; in short, for partial, if not for entire disintegration. The latter, he thinks, is more likely to happen, when layers, composed of the urates or oxalates, are bound together by phosphatic cement. He also directs particular attention to one of the cases, where a considerable quantity of calcareous matter was removed from the prostatic portion of the urethra, by the injection acting on calculi which were found lodging in that part.

Mr. Solly had had a patient under his care in St. Thomas's Hospital, upon whom he had tried Dr. Hoskins' solution, but without success. The bladder was so extremely irritable that it would not bear the solution. He had subsequently tried the nitric acid, and with somewhat better effect. By keeping the patient extremely quiet, and directing all means to allay general as well as local irritability, the patient at length gained such a state of health as permitted Mr. Solly to undertake lithotomy with a chance of success. The patient made a good recovery.

Mr. Lloyd expressed the pleasure he felt in being able to corroborate Mr. Solly, for he believed he had himself seen the case. It certainly was an extremely bad one, and one in which recovery from the operation reflected great credit on that gentleman.

Dr. Willis, although favourable to the use of solvents, believing, on chemical grounds, that they ought to suceeed, nevertheless owned that the conclusion to be drawn from Dr. Hoskins' cases was, that we were still without efficient means of dissolving a stone in the bladder. Solvents for the phosphates, too, however necessary, were the last element that would be required to rid the bladder of a calculus; having dissolved the outer phosphatic layer, we should still generally find ourselves with a central mass of uric acid or oxalate of lime to deal with. He alluded to the powerful affinity of the earth lithium for uric acid, as a new means of attacking that substance. He also thought these cases of

Dr. Hoskins calculated to throw light on another point in the treatment of stone—the value of lithotrity (a certain number of Dr. Hoskins' cases had been subjected to lithotrity); used in proper cases, where the stone was small and the bladder healthy, lithotrity was very valuable; used indiscriminately, it was improper.

Mr. Charles Hawkins spoke of the great value of lithotrity, even as a general means of treating stone in the bladder; there was scarcely any case in which it was not applicable, and in private practice he had seen it all but invariably successful. He had had extensive opportunities, in private practice, and whilst assisting Sir Benjamin Brodie, in observing the powers and safety of lithotrity. He related a case in illustration of what he had advanced. The average number of operations or sittings in each case was about three.

Mr. Bransby Cooper held that the test for the applicability of lithotrity was the capacity of the bladder to bear the injection of from six to eight ounces of water. If it would stand this, the size of the stone, he thought, was of less moment. He certainly could not speak in the same terms as Mr. Hawkins either of the almost uniform success or safety of the operation of lithotrity.

To the Editor of the Medical Gazette.

Sir,

Amid the various epidemics that sometimes attack the medical world, there is one that is conspicuous at present—I mean the *cacoethes loquendi* in young, and also in some few oldish men, particularly at the Royal Medical and Chirurgical Society. I would by no means inhibit the younger members from partaking altogether in the discussions, but I would ask them to recollect that in this Society members meet together to interchange matters of experience, facts collected from mature observation, and not to detail epitomes of the last night's reading, or cases little or nowise relevant to the matter under discussion, but only calculated to set off their successes and superior science. The evil is a double one; not only is the Society's time wasted, but many of the most eminent members are prevented from speaking. The character of the Society will certainly suffer if its discussions are allowed to become so trivial as they occasionally are, without comment, and the Fellows, unadmonished by the Chair, are permitted to talk from the point by the half-hour together. Why, finally, will two or three members, old enough to know better, insist upon offering their opinion upon every subject that comes before the Society? Now and then they would be listened to with patience; upon their legs, not once, but twice and thrice in the course of the same evening, they become unmitigated bores: the Society should get its coughing apparatus into order, and give these gentlemen a significant sign of its discontent.

I have the honour to be, sir,
Your obedient servant,
Silentia.

June 11, 1844.

CURE OF EMPYEMA,

BY PARACENTESIS WITH THE TROCAR, FOLLOWED BY LATERAL INCURVATION.

By Dr. Gadechens, of Hamburgh.

Adolph Scharf, a strong boy, aged 3 years, who had suffered from hydrocephalus when he was a year old, and, though long ailing afterwards, had got into good health during a twelvemonth past, was upon the 29th November of last year seized with symptoms of catarrhal fever, to which supervened in the following days œdematous swelling of the face and the signs of pleurisy of the right side. On the 2d December the presence of a liquid exudation in the right cavity of the pleura was cognizable by the stethoscope. This extended nearly as high as the nipple, and occasioned considerable oppression, a dry painful cough, and violent sthenic fever. It seemed to have proceeded from cold. On more minute examination upon the following day it was ascertained that the right side of the chest was enlarged half an inch. The dull sound on percussion, the deficient respiratory murmur, the œgophonic tone of the voice on the diseased, and the puerile murmur of the healthy side, left no doubt as to the existence of a considerable effusion. Notwithstanding the employment of antiphlogistic measures, the effusion increased; and the fever did not go away, but recurred every evening for some hours, with exacerbation of all the other symptoms. The respiration continued embarrassed; a short dry cough harassed the child at night, only quieted by opium; the skin was dry and harsh: the urine, scanty and red, deposited when cold a brick-dust sediment. The digestive powers were gone, and the strength was rapidly failing. Diuretics and tonics were tried for some time, with a little benefit, especially that of somewhat improving the health. The dilatation of the affected side, however, amounted to three-quarters of an inch. The annoyance caused by the effusion was now chiefly felt a short time before dinner; the breathing was proportionately less short in the mornings and evenings, and the cough less troublesome, so that the nights were quieter. On the 24th January it was decided in consultation that Dr. Wasmann should perform paracentesis. He accordingly passed a small trocar betwixt the

fifth and sixth ribs, about three inches outwards from the nipple, and by the canula thus introduced free issue was given to a considerable quantity of pus of a greenish yellow hue, and tolerably thick consistence. As soon as the discharge nearly ceased, and while, during a fit of coughing, a little air had penetrated with audible sound into the thoracic cavity, the canula was withdrawn, the wound dressed with adhesive plaster, and a bandage brought round the chest. The mother was recommended to get the child to lie as much as possible on the diseased side, in order to favour the efflux of pus. From eight to ten ounces of matter came away by the puncture, and a little more drained off in the course of the next eighteen hours. The wound now closed, and was found completely united at our visit of the 25th January. Immediate relief was obtained by the operation, as manifested by the freer movements of the chest, and the less short and frequent inspirations. Towards evening there ensued a febrile movement, with violent cough. Opium, however, as usual, did not fail to sooth, and procured undisturbed sleep during several hours. On the day following, stethoscopic research proved the fact of a partial dilatation of the compressed lung. Even under the site of puncture a pretty distinct respiratory murmur was audible, and percussion yielded a less dull tone in this region than formerly. There was no longer any evidence of the presence of air in the chest.

From the period of the operation, indeed, a notable amelioration was visible in the state of the patient, which daily made progress. Most striking was the effect of diuretic medicines. The urine directly became clear, lost its red sediment, and was much augmented in quantity. At the same time the distress of breathing, the œdema of the face and feet, the frequency of the pulse, the evening febrile exacerbations, all abated. Ere long the nights were spent in uninterrupted sleep, the skin assumed a moister and more natural feel, and the bodily vigour rapidly increased. The cough alone remained, and this we ascribed to adhesions. The stethoscopic signs on the 14th day after the operation indicated complete absorption of the effused fluid, and a corresponding dilatation of the compressed lung. Things went on favourably, the boy improved both in appearance and in strength, but in the course of a few weeks a marked deviation of the spine towards the sound left side was perceptible, with simultaneous flattening of the right thorax, constituting permanent scoliosis, a very unwelcome but unavoidable result of the cure of empyema. — *Oppenheim's Zeitschrift*, Dec. 1843, p. 540.

THE MODERN METEMPSYCHOSIS.

"Well, and the souls of unworthy practitioners, what becomes of them?" It was thus that I was interrupted in the exposition of my system of cosmogony by my friend Bennet; and I will own I was gravelled by the question; for I found these souls even as difficult to dispose of in the other world as they are in this, and in my system of cosmogony I had not thought of the destination I should give to the souls of ignorant and unworthy practitioners of physic, of charlatans, and of those who live upon the credulity of mankind. But in a true system—and I hold mine to be incontestible—all the details come with the aid of a little reflection to range themselves harmoniously together; and having rubbed my brow for a moment, and scratched my ear, I delivered myself thus: The souls of unworthy practititioners, my dear Bennet, pass into the bodies of the animals which M. Magendie tortures and cuts up alive in his physiological experiments. This expiation appears to me most logical and legitimate; you may be certain that the dog whose sensible nerves the professor of the College of France is now busy pinching and pulling, the rabbit whose spinal marrow has just been exposed, and the guinea-pig whose chest, laid open, permits the palpitation of the heart to be seen, were so many unworthy practitioners of the bygone ages, who now expiate their barbarities, their effrontery, and their cupidity; all their cries of suffering are but accents of contrition and of imprecation vented by their souls upon the rack. Ah, Messieurs les Charlatans! you that were and are materialists, without faith, without religion, without morals, without probity, because you acquired ample riches by indefensible means, and enjoyed your good fortune grossly, you thought yourselves beyond the reach of punishment! No, no, sooner or later, one day or another, frog or salamander, guinea-pig or dog, your feet nailed to the table, another Magendie will hold you under his scalpel, will pinch and irritate your nerves, cauterize your plexuses, pierce your ganglions, and galvanize your muscles! And you, gourmand, you that make a god of your belly, to which you sacrifice all that is noble in human nature, beware! I see another Orfila in perspective infusing some abominable drug or deadly poison into your stomach, tying your œsophagus, and, watch in hand, counting the minutes and the moments of your tortures! Beware, I say!—M. Raimond, in *Gazette des Hôpitaux*, No. 65, 1844.

SUBSTITUTE FOR COD'S LIVER OIL.

M. F. Dubois, of Tournay, has lately substituted the simple, sweet, poppy oil, for the disgusting, stinking, cod's-liver oil, in the

treatment of strumous and rachitic diseases. He orders it in the same doses as the cod-liver oil. One important observation made by M. Dubois, without his apparently perceiving its application, is this: "It is proper to undertake the treatment of these diseases as much as possible in the summer season, for they yield much more readily then than in the winter and spring."—*Ann. de la Societé de Médecine d'Anvers.*

CANCER.

THE treatment of this disease is null at the present period. Surgeons operate; and when patients refuse to submit to the operation, they tell them there is nothing else for it. However, all agree that the operation does not cure; it does not even prolong life. Subjoined is the proof:—

From a return addressed to the Academy of Sciences by M. Leroy d'Etoilles, it appears that out of 1192 patients who had not been cut, 18 lived more than thirty years from the commencement of the disease; while of 801 who had been operated upon, 4 only were living after the same lapse of time.

There survived from twenty to thirty years after the development of the disease, 18 operated, 34 not operated; from six to twenty years, 88 operated, and 228 who had not undergone any operation.—*Tanchou, in Comptes Rendus*, 6 Mai, 1844, p. 879.

CUVIER.

FREQUENTLY *absent*, as we say, in the midst of his family, its members always made war upon the philosopher on these occasions. It happened particularly that he showed himself more than usually absorbed in his own reflections at the period when he was engaged in assigning to precise species the fragments of the fossil bones discovered in the quarries of Montmartre. He once in particular spent several days searching after the fore foot of a certain skeleton of which he had already collected numerous fragments; ever afterwards, when he fell into one of his absent moods, Madlle. Duvancel would rally him, and giving him a gentle salute, would say, "Well, and art thou still seeking after that fore foot of thine?"—*Bourdon, Illustres Médecins.*

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Gentlemen admitted Members, June 7.—A. Roberts.—G. J. Rose.—R. C. Griffith.—H. J. Domville.—H. Buck.—J. F. Cartner.—A. Henfrey.—F. W. Marshall.—G. P. Hubbard.

June 10.—W. S. Kirkes.—H. Semple.—H. Holmes.—T. Harrison.—D. F. Waters.—C. D. Arnot.—H. L. Pomfret.

June 14.—E. S. F. Arnold.—G. Cotton.—W. Westall.—J. Williamson.—J. Gould.—H. A. Hore.—J. D. Cronin.—S. T. Badger.—E. Garraway.—C. W. Blashfield.

APOTHECARIES' HALL.

Gentlemen who have obtained certificates, June 13.—W. Culverwell, Christ Church, Surrey.—C. Watkins.—W. Hammond, Beeston.—J. L. Lucas, Northamptonshire.—J. Lynch, Newbiggin.—J. C. Wells, Swaffham, Norfolk.—T. Anthony, Bideford, Devon.—T. L. Henley, Newton Abbott.—S. Beecroft, Hyde, Cheshire.—T. H. Murison, Ireland.—J. S. Cousins, Wotton, Gloucestershire.—S. B. Gwynn, Wenn, Salop.—R. I. Scott, Falmouth, Cornwall.

TO CORRESPONDENTS.

We have the honour to acknowledge the receipt from Sir James M'Grigor, Director-General of the Army Medical Department, of a Report from the pen of Dr. Gilkrest, Deputy Inspector-General of Hospitals, on the Meningitis which has lately prevailed at Gibraltar. This will appear next week.

MORTALITY OF THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, June 8.

Dropsy, Cancer, Diseases of Uncertain Seat	117
Diseases of the Brain, Nerves, and Senses	159
Diseases of Lungs and Organs of Respiration	249
Diseases of the Heart and Blood-vessels	19
Diseases of Stomach, Organs of Digestion, &c.	56
Diseases of the Kidneys, &c.	10
Childbed	6
Paramenia	1
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Arthritis	1
Rheumatism	2
Diseases of Joints, &c.	2
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.	0
Old Age or Natural Decay	58
Deaths by Violence, Privation, &c.	9
Small Pox	46
Measles	22
Scarlatina	56
Hooping Cough	16
Croup	10
Thrush	7
Diarrhœa	5
Dysentery	2
Cholera	0
Influenza	1
Ague	0
Remittent Fever	0
Typhus	32
Erysipelas	5
Syphilis	1
Hydrophobia	0
Causes not specified	4
Deaths from all Causes	901

WILSON & OGILVY, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JUNE 28, 1844.

ON HYDROPHOBIA.

The Substance of a Clinical Lecture given at St. George's Hospital, June 28, 1844.

By Cæsar Hawkins, Esq.
Surgeon to St. George's Hospital.

I propose in to-day's lecture to bring under your notice the remarkable and rare disease, Hydrophobia, a case of which you have recently seen; not, indeed, under the idea that it may prove of great practical importance, for as none of you, I believe, have ever seen the disease before, so it may happen that you may never see it again. It is now just twenty years since a case of hydrophobia was admitted into this hospital; and there have been only two cases since I first knew the hospital, twenty-five years ago, one of which occurred in the year 1823, when I was house-surgeon, under the care of Sir Benjamin Brodie; and the other under Mr. Jeffreys, I think in the following year, 1824. But although rare, it is right that you should be acquainted with the subject; and I will therefore make some remarks while the case is vividly impressed on your recollection. Certain I am, that having seen this case, you will never fail to recognise the disease, if you should again witness it, and that you are not likely to mistake any other malady for it, although there is no doubt that many of the cases related in medical works have been thus mistaken, several of the supposed cases of the disease having in reality been instances of some other spasmodic disorder, of which dysphagia formed a part. I will first read you the entire history of the case from the note-book, as far as the facts have been ascertained relating to it.

Charles Havens, 13 years of age, was admitted into the hospital in the evening of June 11th; and it appears that on April 22d, just fifty days previously, he had been bitten by a dog on the right hand. The wound was small, and healed in three days; and there has been no fresh inflammation since that time; neither has he had any pain running from it to the trunk, nor is there any redness or soreness of the part. At the carpal extremity of the right thumb there is a small elevated cicatrix, with a scratch on each side of it. He complains of pain in the shoulder, from a fall three days previously to his admission. He remained well till this morning, the 11th, when he complained of feeling ill, and as his mother was washing him, he allowed her to wash his hands; but when the water was about to be applied to his face, he ran away with dread, and frequently placed his hand to his mouth, saying he was going to be choked. He was taken to a surgeon, who gave him an emetic. All this was not known when he was brought to the hospital at 9 P.M., at which time he is said to have had a furred tongue, a hot skin, and quick pulse, and some redness of the fauces, with slight difficulty in swallowing. Some calomel was given to him, and some senna ordered; but as he had two motions after the calomel, the senna was not given.

The next morning, the 12th, the notes say he had no sleep during the night; and this morning he is much distressed, and his countenance expressive of great anxiety at any surprise, or noise, or on any one approaching him; the least breath of air, the noise of water, and especially the sight of it, or the idea of swallowing, brings on a violent spasm of the muscles of the throat, particularly of those connected with the function of deglutition; and he complains of great pain in the throat when he attempts to swallow, which is done convulsively and with effort. It was while things were in this state that I was sent for, and I saw him for the first time between 9 and 10 o'clock.

About 10 A.M., after much coaxing, he swallowed a pill with one grain of Cannabis

Indica, said to be quite fresh; and at 11 A.M., an hour afterwards, another grain was administered. Some ice was also given him, but he could not put it to his mouth; "it took his breath away." The motion of the bed-clothes brings on spasm, and he holds his hand violently to his mouth whenever the door is opened, or there is the least current of air; he complains angrily also if any one brings his hand near him, whether towards the face, or even any part of the bed. The spasms of the throat are more frequent. His intellect is unimpaired. The pulse is about 90, intermitting irregularly, about four times in a minute—I should observe, however, that this was noticed earlier in the morning, before any medicine was given him. The fever of the night before was now nearly gone, and the redness of the fauces was no longer perceptible in the degree previously observed. At 12 o'clock, being in the same state, with apparently no effect from the pills, three drops of Scheele's Prussic acid were given, and the same quantity half an hour afterwards. At 2 P.M. you all saw him with me, and might have observed the symptoms before mentioned. The notes continue:—No apparent effect from the medicine; perspiration breaking out; spasms of the throat as frequent as ever; terror as great. A little beef-tea was offered him, and after much persuasion he took it up (insisting on a smaller quantity being given), threw it into his mouth, and instantly gulped it down; this was followed by spasm and great distress. There is now some wandering and confusion of thought, and he fancies he sees things and persons on the walls and around him. Two grains more of the hemp were administered, and the same dose was repeated at 3 and at 4 P.M., at which time the notes say there is more wandering; spasms of the throat not so violent; some perspiration. A beef-tea injection was about this time attempted to be thrown into the bowel, but he resisted so violently that it had to be given up; and the horror produced by the attempt remained for a long time afterwards. I saw him about 5½ P.M., still exceedingly alarmed at the idea, fighting furiously with his hands and whole body, and confusing in a singular manner the supposed shooting of the syringe with imaginary shooting in a shooting-gallery. Two grains more of the Cannabis were given at 5½ P.M.; and as the house-surgeon, Mr. Cundy, seemed anxious to apply a cloth dipped in laudanum and æther, which he had been informed had recently been done in two cases successively of tetanus, with presumed good effect, as both patients recovered, I gave him leave to use it; but the application had the effect of making the patient worse for a time. At 7½ P.M. there was less spasm, but foaming at the mouth was now noticed, and violent mania, and he refused to take his pill; three drops of hydrocyanic acid were therefore given in its stead. He took a two-grain pill, however, at 8, and at 9, and again at 10½ P.M., at which time he was much freer from spasm, and had sucked an orange and taken a little beef-tea; but he wandered and talked incessantly. At 12 P.M. he took three grains of the hemp, and the same quantity at 1 A.M. At 2 A.M. he took two grains, and the same at 5, 7, and 8 o'clock. At 8 A.M. of the 13th, the notes say:—between 1 and 2 o'clock he had several fits of spasm of the throat, and two of these fits were accompanied by opisthotonos, each lasting about a quarter of an hour, with twenty minutes interval between them; since which time he has been more quiet and collected, and free from spasm and alarm, and continued so till 7 o'clock. During this time he took three eggs, with some bread and butter, and a little beef-tea, without apparent difficulty; he also talked sensibly, and once he appeared to sleep for a few minutes. The pulse is however weaker, his expression is more careworn, and he has some retching. At 9 A.M. he took three grains more of the hemp, and again at 10 the same quantity, at which time he was more violent, and refused to take anything else: he talks incessantly; the pulse is weaker, and the extremities are becoming cold; the eyes are hollow and staring; the expression of the countenance is horrible. He is now perfectly delirious, talking, singing, and shouting; he is vomiting constantly black matter, which he brings up with hiccough; there is heaving of the chest, but not much difficulty of breathing. At 1 P.M. he is furiously delirious, but evidently weaker; pupils dilated; eyes wild and prominent; mouth constantly filling with thick dark-coloured foam, which he spits out, and snatches with his fingers, and throws about him, and on those around him. The extremities are colder, and the hands more blue; the pulse is not perceptible at the wrist, and the heart's action is exceedingly feeble. There have been no spasms since 9 o'clock; he became gradually more feeble; the inspirations were finally not more than two or three in a minute; and he died calmly, and without further struggle, at 2 P.M., little more than fifty hours from the first time that any spasm was observed.

Such, then, is a full account of a case of hydrophobia, and it presents you with the ordinary symptoms of the disease. This is, I think, the tenth case I have myself seen, and they have all agreed in the main features, with some little variations in minor points.

In this case the actual hydrophobia, or dread of water, was very great during most

of the time; but this horror is by no means constant, and forms no essential part of the disease; I have even seen patients glad to swallow frequently, with much effort and exertion of the will, it is true, but still they did it on account of the comfort they derived from the act, probably by washing away the viscid secretions of the throat. The spasms, as you saw, were principally of the muscles of the fauces, throat, and neck, and are generally confined to these parts. In this boy they twice affected the muscles of the back; and in another case which I saw, the hands were contracted as in chorea; but the extension of spasm below the neck is accidental. You saw in this case, as a very prominent symptom, a very curious delirium; and the violence of action of this boy was as great as I have almost ever witnessed. More or less delirium is, however, always present; at least I have always seen some wandering; it may be of a pleasing kind, judging by the nature of the conversation, and the smiles I have seen, in one little boy whom I nursed from the beginning to the end of the disease; and it was so quiet, that he could always be roused from it to answer rationally. Even then, however, towards the patient's death, the same horror came on that Havens shewed, and the child buried himself in the clothes, and held out his hands to protect himself from imaginary dangers. On the other hand, the delirium may be most furious. I remember a case in one of the hospitals (Guy's, I think) where every body was glad to run away and lock the door on the patient to protect himself; and the man broke the window and railings and got out, and was with difficulty secured again. More or less delirium is, however, I repeat, always present as far as I know; and I dwell on this marked symptom, because I have been informed by one of you that a physician has remarked that he has seen seven cases of hydrophobia, in none of which was there delirium; leaving it to be implied that the Indian hemp might have produced it in our present case, as it is a common effect of that medicine. I have just looked at the notes of a good many cases, thirty-five, I think, of hydrophobia, and in only one do I see it stated that the patient never lost his senses, while delirium is mentioned in all the others; but in this very one the patient is said to have run away from his doctors and escaped into the village, frightened at the gurgling of some injection that was administered to him, which is not quite the action of a person in his senses; and a strait waistcoat was used afterwards for the patient, who is said not to have lost his senses. The delirium of hydrophobia is exactly like that of mania, so that the patients will sometimes not know their relations, and will take a fancy in favour of or against particular individuals. A little child of four years old would not allow a particle of clothing to cover him; and patients constantly fancy that insects or other animals are present, and will sometimes shew the most violent irritation at imaginary or real objects: for instance, a man with hydrophobia lay not far from a really insane person, who uttered frequently a particular word, "sharp," at which the hydrophobic patient was so offended, that he threatened to tear him piecemeal for doing so. There is often, as in this case, a remission of the symptoms in the last twenty-four hours, so that the patient can eat and drink without difficulty, and lie quiet and free from spasm; and you must not, therefore, always attribute this temporary quiet to medicine; fresh symptoms afterwards come on, as they did here, and are fatal. Then, again, you observed the vomiting of dark matter, and the spitting the thick mucus from the mouth, which are always more or less present, and have nothing to do with the medicine taken into the stomach, as the appearance is nearly the same whatever remedy is used. Lastly, you saw the mode of death, which is the common one; not by suffocation, but by gradual failure of nervous power, and of the heart's action, rather than of respiration.

I will next read the account of the post-mortem examination.

There was a small quantity of serum in the spinal canal both in the upper part of the cervical region and in the lumbar region, the membranes and cord being apparently perfectly healthy; the posterior spinal veins were less turgid than in many cases, although the body had been lying on its back since the death of the patient. The membranes of the brain were apparently healthy, and there was no effusion in the arachnoid or sub-arachnoid cellular tissue. Both substances of the brain were, throughout their whole extent, congested, and of a darker colour than usual; the grey matter presented a marked pinkish colour, especially that portion which was in contact with the pia mater. The ventricles did not contain more fluid than natural. The cerebellum, pons Varolii, and medulla oblongata, were congested, and of a pinkish colour, but these appearances were not more marked here than in other portions of the brain. The substance of the medulla oblongata was carefully examined in the microscope by Mr. Toynbee and Mr. Hewitt, but presented nothing remarkable. The different parts of the brain were somewhat softer than usual, but this softness was general, and most probably attributable to the time of the patient's death, and the state of the weather. The mucous follicles at the base of the tongue were very large and numerous, and

the mucous membrane of the fauces and pharynx congested, and of a dark venous colour—the discoloration did not extend beyond the level of the superior margin of the thyroid cartilage; below this the mucous membrane of the pharynx and œsophagus was of its natural colour; the mucous membrane of the windpipe was but slightly congested, and there was no thickening of the submucous tissue of the larynx.

The right lung was universally and firmly adherent—of course from old disease—and both lungs gorged with blood, but without serum (that is to say, there was not the discharge of serum into the air-vessels to relieve the overloaded bloodvessels usually seen in any form of suffocation), especially at the back part, where they were very soft, and of a dark colour. A few scattered tubercles were found in the right lung; the submucous membrane of the bronchi was slightly congested. The heart was natural, the blood contained in its cavities being small in quantity, very dark and thick, and with one or two small loose coagula, also of a dark colour; they presented no remarkable appearance in the microscope.

There were some small circumscribed arborescent congestions in the immediate neighbourhood of the œsophageal region of the stomach, and no other apparent lesion of this organ; these spots appeared like ecchymoses in some parts, but it did not seem that there was really any extravasation of blood. The liver, spleen, kidneys, and intestines, were congested, but otherwise healthy. Both pneumogastric nerves were, throughout their whole extent, minutely examined, but they presented nothing remarkable.

Exactly such is the usual result of examination after death; the patches of congestion in the stomach, and the dark colour of the fauces, and the general vascularity of every part of the body, being the only circumstances invariably found, which are, however, obviously insufficient to account for the fatal symptoms,—together with the appearance of the blood, before noticed, in which there may be material change of property. The congestion is, indeed, frequently spoken of as inflammation, but not often by those conversant with morbid anatomy, nor do the symptoms during life at all point to inflammatory action. Whether the actual appearances of the throat and stomach are not rather the effect of disease than a cause capable of exciting the irritative spasms, is very doubtful; the nerves, at any rate, going from these parts shew nothing wrong.

Very nearly similar to this is the evidence afforded by examination of the rabid dog, as I have myself repeatedly seen. This is Mr. Youatt's account of the matter, only that you must substitute congestion for inflammation:—"After death, there will invariably be found more or less inflammation of the mucous coat of the stomach, sometimes confined to the rugæ, at other times in patches, generally with spots of extravasated blood, and occasionally intense, and occupying the whole of that viscus. The stomach will likewise contain some portion of indigestible matter (hair, straw, dung), and occasionally it will be distended and completely filled with an incongruous mass. The lungs will usually present appearances of inflammation, more intense in one, and generally the left lung, than in the other. Some particular points or patches will be of a deep colour, while the neighbouring portions are unaffected. The sublingual and parotid glands will invariably be found enlarged, and there will also be a certain portion of inflammation, sometimes intense, and at other times assuming only a faint blush, on the edge of the epiglottis, or in the rima glottidis, or in the angle of the larynx attached to it."

Assuming that hydrophobia is communicated from one animal to another, you would naturally expect that there would be some variety of symptoms in different species, and it seems probable *à priori* that a comparison of the disease in various genera would help us to a knowledge of its essential nature. It was from the dog that this boy had the disease, and it is from this animal that most persons derive it; and as you should be acquainted with the nature of rabies canina, and the books in your hands do not contain a very complete account of it, I will next read to you its history, as related by a most intelligent veterinary surgeon, Mr. Youatt, who has seen more of it perhaps than any other person in the kingdom.

"The symptoms of rabies in the dog are the following, and nearly in the order in which they occur. An earnest licking, or scratching, or rubbing, of some particular part; sullenness, and a disposition to hide from observation; considerable costiveness, and an occasional vomiting; an eager search for indigestible substances, as bits of thread, hair, straw, and dung; an occasional inclination to eat its own dung, and a general propensity to lap its own urine: the two last are perfectly characteristic circumstances." Symptoms these which are not present in our own species. "The dog becomes irritable; quarrels with his companions; eagerly hunts and worries the cat; mumbles the hand and foot of its master, or perhaps suddenly bites it, and then crouches and asks pardon. As the disease proceeds the eyes become red; they have a peculiar bright and fierce expression; some degree of strabismus or squinting very early appears (not the protrusion of the membrana nictitans or haw over the eye, which in distemper often gives the

appearance of squinting), but an actual distortion of the eyes; the lid of one eye is evidently more contracted than the other; twitchings occur round the eye, they gradually spread over that cheek, and finally over the whole face. In the latter stages of the disease that eye frequently assumes a dull green colour, and at length becomes a mass of ulceration." All these remarkable affections of the nerves of the eyes and the portio dura are in addition, you will observe, to what you saw in the boy. "After the second day the dog usually begins to lose a perfect control over the voluntary muscles; he catches at his food with an eager snap, as if uncertain whether he could seize it, and he often fails in the attempt. He either bolts his meat almost unchewed, or in the attempt to chew it drops it from his mouth. This want of power over the muscles of the jaw, tongue, and throat, increases, until the lower jaw becomes dependent, and is of a dark and almost black colour. The animal is able, however, by a sudden convulsive effort, to close his jaws and to inflict a severe bite.

"The dog is in incessant action; he scrapes his bed together, disposes it under him in various forms, shifts his posture every instant, starts up and eagerly gazes at some real or imaginary object; a peculiar kind of delirium comes on; he traces the fancied path of some imaginary object floating around him; he fixes his gaze instantly at some spot in the wall or partition, and suddenly plunges and snaps at it; his eyes then close, and his head droops; but the next instant he starts again into renewed activity: he is in an instant recalled from the delirium by the cries of his master, and listens attentively to his commands, but as soon as his master ceases to address him he relapses into his former mental wandering." All this is exactly like the delirium of man.

"His thirst is excessive (there is no hydrophobia in the dog), and the power over the muscles concerned in deglutition being impaired, he plunges his face into the water, up to the very eyes, and assiduously but ineffectually attempts to lap." I may observe as to this point how completely the symptom of hydrophobia generally present in the human species is vulgularly transferred to the dog; I actually remember its being stated that a London magistrate ordered a suspected dog to be taken to the pump, and there trying to drink, it was immediately turned loose again, with perfect confidence that it was not mad, after this very satisfactory test!

"His desire to do mischief depends much on his previous disposition and habits; I have known it to proceed not beyond an occasional snap, and that only when purposely irritated, but with the fighting dog the scene is often terrific. He springs to the end of his chain; he darts with ferocity at some object which he conceives to be within his reach; he diligently tears to pieces everything around him; the carpet or rug is shaken with savage violence, the door or partition is gnawed asunder; and so eager is he in the work of destruction, and so regardless of bodily pain, that he not unfrequently breaks one of his own tushes.

"If he effects his escape, he wanders about, sometimes merely attacking those dogs which fall in his way, and at other times he diligently and perseveringly hunts out his prey; he overcomes every obstacle to effect his purpose, and unless he has been detected in the march of death, he returns in about twenty-four hours, completely exhausted, to the habitation of his master."

I am inclined to think there may be some truth in this contrast with regard to ourselves also in explanation of the difference of violence; I have seen a gentle and amiable boy quiet, and easily persuaded, and without any inclination to do mischief, and a cruel and a quarrelsome one exceedingly violent, fighting and abusing every one near him, and driving every body away; what this boy's natural disposition was I have not heard, but he was certainly at times very delirious and violent.

"He frequently utters a short and peculiar howl, which, if once heard, can rarely be forgotten; or if he barks, it is a short coarse inward sound, altogether dissimilar from his usual tone. In the latter stages of the disease a viscid saliva flows from his mouth, with which the surface of the water that may be placed before him is covered in a few minutes, and his breathing is attended with a harsh grating sound, as if impeded by the phlegm in the respiratory passages." In this also the appearance is much like what you have recently seen in the boy.

"The loss of power over the voluntary muscles extends after the third day through his whole frame, and is particularly evident in the loins; he staggers in his gait, and there is an uncertainty in all his motions, and he frequently falls, not only when he attempts to walk, but when he stands balancing himself as well as he can. On the fourth or fifth day of the disease he dies, sometimes in convulsions, but more frequently without a struggle."

In these latter symptoms is the greatest difference between the disease in the dog and in ourselves; while the earlier phenomena are the same, or nearly so, the paralysis observed in dogs is never found, I believe, in man; the muscular power is elevated rather than depressed, and that even till a late period: in this boy nearly to the last half hour. A man often exerts himself most vigorously; a patient of my brother's in the Middlesex Hospital, in alarm, jumped

over one bed after another in the ward, and was with difficulty brought back, and some restraint is generally required; the brain seems excited in man; but it is at last oppressed so as to cause palsy in the dog.

In observing this case of hydrophobia you cannot but have been struck by the resemblance that it bore in many respects to the cases of tetanus which you see so much more frequently. In both diseases a wound or injury, in which nothing particular is observed locally, is followed after a certain time by the most painful and distressing spasmodic contraction of the muscles. In both diseases there is the most exquisite irritability of the sentient surfaces, the skin, the ear, the eye, so that the touch, or even the approach of the finger, a breath of air, a noise, mental excitement, immediately causes violent spasm. In both diseases the termination is almost always fatal, in hydrophobia perhaps invariably so, and this commonly in both cases from 48 to 60 hours from the commencement of the malady, at the latest on the third, fourth, or fifth day. In neither case is there a satisfactory explanation of the symptoms, or of the cause of the patient's death, in any morbid appearance which has been observed, with sufficient constancy in any vital part to be associated with these symptoms.

And yet, notwithstanding the strong analogy between tetanus and hydrophobia, there are many points of difference. In tetanus the spasms affect the muscles supplied by the fifth nerve in all cases; in most the muscles of the trunk of the body, and in a few cases those of the extremities also; the muscles of deglutition are much affected, but many others also participate in the spasms, the whole spinal column being deranged in its actions. In hydrophobia, on the contrary, it is very seldom that any other muscles besides those of the throat are spasmodically contracted; the fifth nerve, and those of the spine, are nearly unchanged, and the eighth pair, with the phrenic nerves, seem to be chiefly influenced by the disease. In tetanus the muscles are permanently rigid, the spasm being constant with temporary increase; in hydrophobia the spasms are only occasional, and the relaxation of the muscles is perfect in the intervals. In tetanus the spinal system is much disordered, but the cerebral functions are comparatively unimpaired, and the mental powers almost always perfect to the last; delirium is hardly ever observed. In hydrophobia, on the contrary, while the voluntary muscles dependent on the spine are perfectly obedient to the will in man, and paralysed to a certain degree in the dog, the mental faculties are seriously impaired in all animals, and delirium and absolute mania are added to the spasm in almost every case. While tetanus is not unfrequently idiopathic, occurring spontaneously, as from a chilblain, or without any apparent cause, hydrophobia never occurs, in my opinion, except from inoculation; and the same is asserted by the best observers as to the lower animals. Many cases, indeed, have been published of spasmodic affections, in which convulsions and dysphagia, and even hydrophobia, formed a prominent part, some of which ended fatally, but of which most recovered; but all these cases in my opinion want some of the essential characters of real hydrophobia, such as you saw in this boy. Whatever was its first origin, like syphilis, there is, I feel confident, no reason to believe in its spontaneous occurrence now; there is no doubt always inoculation, although some few persons think otherwise. Here, then, is the most important dissimilarity between the two diseases: traumatic tetanus may arise from any kind of injury whatever, a burn, a wound, a dislocation without any wound, a splinter inserted in a nerve or fascia, a mere laceration, a mere scratch; in hydrophobia, on the contrary, there must be inoculation from the saliva and other secretions of the mouth of a rabid animal. There is no proof, I think, that the poison resides in the saliva alone, as is usually supposed; neither is there any apparent foundation for the opinion which some have entertained, that it is contained in the secretions of the bronchial tubes; on the contrary, you saw here that the dark congestion of the fauces distinctly terminated at the glottis. It would appear quite as probable that the poison is formed in the tough viscid secretion of the fauces, which gives so much distress to the patient, those parts being invariably much altered in colour, and the glands enlarged. With this fluid of the mouth, whether mucous or salivary, or both, repeated experiments have been made, and have constantly succeeded in producing the disease in the inoculated animal. It is not necessary that a bite should be inflicted; the mere licking a part in which there is an abrasion of any kind is quite sufficient.

Let us see how this is proved as to the boy whose case we are considering. What has been ascertained with regard to this point at the inquest, or since that time, is this. The dog, which was a Spaniel belonging to the resident at the next house, was being driven by the boy out of his own house when it bit him; and it had been observed by its master to have been ill previous to this. It was then tied up, but a cat was also bitten by the dog, and a servant-girl was bitten on the thumb, and the cat's kitten was attacked and killed by the dog at the same time that it injured the boy; but it does not appear in the notes whether the servant and the cat were injured at this time or subsequently.

The dog having been tied up is then said to have fallen off in its appetite, to have had frequent catchings in the throat, and become snappish, and died about a week afterwards, according to the account the boy himself gave me, but as I have been informed by others, only five days ago. The former account would have been not unlikely if the dog died of rabies; in the latter case, though not impossible, the animal must have recovered from the usual fatal symptoms of the disorder*. It appears further that the cat was ill for some days after the bite, but soon recovered; about a fortnight afterwards, however, (and the lower animals evince the disease much earlier than ourselves,) it became stupid, and giddy, and wild, running up and down stairs, and refusing food, and while in this state scratched the boy's hand; it died three or four days afterwards, having had several fits; an account which is not unlike the symptoms of the disease in this animal. A medical man examined the stomach of the cat, and a farrier opened the dog, and both assured the owner of the dog that they died from natural causes. We have already seen, however, that such an examination is not conclusive, particularly, of course, if the dog died so recently.

Assuming, then, that inoculation is the cause of the disease in man, it is, as you are aware, most commonly produced by the dog, or other canine animal, but the cat has frequently occasioned hydrophobia in man and in other animals; and probably many other animals are capable of communicating it; experiments have been made, which make this probable of the cow; still it is rare except with the canine and feline races. Whether one human being can give hydrophobia to another has not been proved, though there seems no reason why it should not be so: we have, however, one experiment only, which is said to have succeeded; this is on the authority of Magendie and Breschet, with regard to a patient of Dupuytren's, with whose saliva a dog is said to have been made rabid, and a second dog from this, but in the third trial it failed. It has been said too that rabies is incapable of being propagated through more than three individuals of any kind; Mr. Youatt has told me, however, that he has produced the disease at least four times successively, without reference to former sources for the first dog.

Thus, then, hydrophobia is the result of an inoculated poison, but no doubt, as with all contagious diseases, a certain susceptibility is necessary in each person or other animal to make the virus act: it is thus said by Mr. Youatt that he has often known rabies come on as if from the excitement of parturition, or when the animal was at heat, when perhaps the disease might otherwise have been escaped. From this cause it is, in part, that fortunately so few persons have hydrophobia, many who are bitten by actually rabid animals not being susceptible of the poison. Many again who are bitten, and might be in a state for it, do not receive the poison, because it is wiped off by the clothes, or because several have been bitten successively. I remember an account of a physician, a Dr. Ingelhong, who was engaged in some experiments with ticunas poison, and accidentally let the knife he was using drop down upon his foot, on which he sat down, and said, "in five minutes I am a dead man." It might be curious to speculate on the state of mind of persons in this state of expectation, of which some idea may be formed from the picture given by Sir Walter Scott in Old Mortality. When two or three minutes elapsed, however, the Dr. thought he might as well wipe his foot, and shortly found that he was not dead, and that the poison had been arrested by the clothes.

The disease is, in fact, from these and other causes, much more rare than the public fears would lead one to imagine; I observe, for example, that, in the last report of the registrar-general (that for 1841), the total deaths in England and Wales having been 343,847, only 7 persons died of hydrophobia, of whom three died in the metropolis, two in the western district, and one in Wales; while, in the same time, no less than 118 died of tetanus. What proportion of those bitten by really rabid animals are likely to have hydrophobia I do not know; we are informed by Dr. Trolliet, that out of twenty-three persons bitten by a wolf in 1817, no less than fourteen died of hydrophobia, while in many other cases only one will have the disease out of ten or twenty; for instance Dr. J. Hunter found, when twenty-one persons were bitten, that of them one only died. It seems very likely that the poison may be more virulent in one rabid animal than another, and much may depend on the mode of attack; the wolf, for instance, is said to attack the face or hands; this boy was bitten in the hand, and this and other exposed parts are more likely to be inoculated. I have been told by Mr. Youatt that he had been bitten seven times, and this not by dogs of whom many are not rabid, but by animals proved to be actually mad; and his servant had been bitten four times, but every time with impunity. I was much indebted to this gentleman some years ago for his assistance, while I was engaged in some experiments on several different remedies on rabid dogs; for it is not an agreeable task, without being perfectly con-

* It appears, in fact, from the evidence of the owner of the dog, that the animal really died on the Thursday following, which was April the 25th, the fourth day after he bit the boy.

versant with their habits, to be putting medicines into the mouths of mad dogs.

It seems very likely that rabies abounds in certain seasons, so that in some years there are very few cases, while in others it is very prevalent: on looking at the Registrar-general's Report, which I have just alluded to, I observe that in 1838 twenty-four persons died of hydrophobia, fifteen in 1839, twelve in 1840, and only seven in 1841. Tetanus, on the other hand, not being a contagious or epidemic disease, is pretty uniform, so that there died of it, in the same years, 129, 122, 142, and 118, respectively; and the deaths altogether were more numerous in the year in which the greatest number died of this disease.

It is very probable, too, as with other epidemic diseases, that hydrophobia may have somewhat regular periods of increment and decrement, as it is termed, which makes the mortality very variable; there died, for instance, in the same years, of small pox, above 16,000, 9000, 10,000, and 6000; and of scarlatina, at first only 5000 and upwards, then 10,000, 19,000, and 14,000, in round numbers. So the hydrophobia diminished each successive year, and again perhaps will increase to a larger number.

Like all contagious diseases, hydrophobia has a certain period of incubation, as it is called, in which the poison produces no sensible effect. In this boy you found that just seven weeks elapsed from the bite till the time when the symptoms became manifest, which is a very common period; from six weeks to three months is the time in which almost all the cases of hydrophobia have been seen. I have here a table of about 130 cases of the disease, of which seventeen occurred from eighteen to thirty days after inoculation, the former date being one of the earliest periods at which a real case of hydrophobia has been observed in man: from 30 to 59 days, that is to say in the second month, no less than sixty-three took place, almost exactly half, you perceive, of the whole number; from the second to the third month twenty-three cases were seen; so that thus within the first three months five-sixths of the whole number took place; in the fourth month nine cases occurred: after this they were seen at various periods, one or two in each month, the fifth, sixth, seventh, and so on, up to the nineteenth, which was a case under Mr. Nourse's care, and is the latest time at which hydrophobia can fairly be said to have been known; there is, indeed, a case of Dr. Bardsley's, in which hydrophobia is said to have been produced by a bite twelve years before, but it appears most improbable that this was really the case.

How long the poison is latent in the wound is quite uncertain, so that precautions ought to be taken in any suspected case to the last. In many cases there is observed in the cicatrix a degree of pain and heat running up the arm a day or two before the symptoms manifest themselves, but it was not the case in the present instance, nor is it by any means constant. The same uncertainty is seen in tetanus. The woman, whose thumb was bitten by the same dog as this boy, was desired by Mr. Banister to come here; but very likely she will not. Undoubtedly, in every case where it appears practicable, the wound or cicatrix should be excised; and if any doubt exists whether the whole has been taken away, caustic should be afterwards used; so should it, also, when the wounds are too numerous or extensive to have the excision performed. What caustic, however, should you employ? Theoretically, no doubt, the kali purum would appear more likely to destroy every part in which the poison may have insinuated itself; but it is not at all impossible that one caustic may have greater power than another of coagulating and neutralising, or decomposing, the secretion in which the poison is contained. I do not know any data on which this question can be decided, derived from a sufficient number of cases. There was a record of 106 cases of bites treated by caustic potash, by Dr. Ekstrom, who advocated the propriety of keeping the wound open for a long time, out of which one case of hydrophobia took place, because, as he alleges, the patient did not keep the wound discharging long enough; if the caustic is well applied, the sooner it heals, I should imagine, the better. Mr. Youatt told me, some years ago, that a great many persons, in consequence of his peculiar practice, applied to him after they had been bitten by dogs, and that he always used lunar caustic, which he had employed upon himself and his servant every time, and in round numbers perhaps to 400 others; and that out of this number one had died of fright, but none had had hydrophobia. This is a considerable number, of whom many must have been bitten by really mad dogs, and on the whole I am rather inclined to favour the argenti nitras, than the potassa fusa, if it can be got to every suspected part.

I have not time to describe to you the great variety of remedies which have been proposed for the prevention or cure of hydrophobia, which you will find, however, in a very good article on the subject, in Cooper's Surgical Dictionary, and in other works commonly in your hands. All preventive remedies must necessarily act on the principle that many would escape the disease even if nothing were done; some vegetable powders were sent to Mr. Tatum as an infallible cure for hydrophobia, of which the direction was, that as much as would lie on

a knife should be given three mornings fasting in liquid, that the patient should not eat till 12 o'clock, and that while under their use he should not have supper. A curious idea this; to talk of dinners and suppers to a person dying in forty-eight hours of hydrophobia! And all the rest are similar.

As every method had hitherto failed, out of the great number which have been employed, I determined, in the treatment of this case, to give a trial to a remedy which has been said to cure hydrophobia in India, and I believe has not yet been given in this country; and the boy took, as we have seen, as much as thirty-six grains of recent extract of the cannabis indica without any apparent effect whatever, unless it were some increase of the maniacal delirium, of which I am not certain; certainly without the great relief I have seen from prussic acid, or from the mikania guaco, which I tried in several cases, both in the dog and in man, after some had been sent to me by Sir Robert Ker Porter, or from opium; the scutellaria, and other remedies, will also mitigate the disease in dogs.

But, after all, what do you gain if you remove altogether the spasms, which are so prominent a symptom during the greater part of the complaint? These spasms are only a symptom of the disorder, whatever it may be, just as they are in tetanus, indicating some obscure irritation of the nervous centres from some unknown cause. There are many hours' quiet in hydrophobia, the spasms in this case scarcely being present for more than two hours out of the last twelve, but the disease was still going on; so, also, in tetanus, I have repeatedly seen persons recover, in whom the tetanic spasms remained without remission: and I have seen them quite removed by remedies, so that a patient has said, an hour or two after the treatment has been begun, that he was in heaven to what he had been, and the spasms have almost entirely ceased, and only a little has returned just before his death; yet nevertheless he has died twenty-four hours afterwards; perhaps very nearly in the same time that he would have died if the spasms had remained.

I had at one time almost made up my mind to open the windpipe in this boy, which has been proposed by Dr. Physic, I believe, and by my former colleague, Mr. Mayo, and has received countenance from other persons also. I rather think it was done on one occasion, and that the patient died earlier than he otherwise might have done; certainly I should have run much risk if I had tried to perform it when I saw the boy in the afternoon, and found that the cannabis had produced no beneficial effect, for the greatest violence was produced by my merely attempting to put my hand to him to feel the state of the larynx; he immediately began jumping up and fighting with his hands, and I am satisfied if I had shewn any instrnment, or tried to open the trachea, I should have run much risk of causing instant suffocation. And after all, I am inclined to think the suggestion more plausible than likely to be generally useful; there is indeed spasm about the glottis, and it is just possible that an opening existing in the trachea, an individual both in hydrophobia and tetanus might, in some rare instance, have his life prolonged; but the cause of death is not here in almost any case of either disorder; the spasm in hydrophobia does not last long at a time, there are many intervals of rest, often many hours, and the appearances after death are not those of suffocation; the patient rather dies from failure of the heart's action; the pulse becoming exceedingly quick and feeble, gradually ceases altogether, while respiration is in many instances going on quietly and without difficulty; there is indeed general congestion of all the tissues of the body, but it is of all the capillary vessels, as it seems to me, not of the veins only, as in deaths from any species of suffocation.

We have, in fact, no principle to guide us in the treatment of hydrophobia; we do not even know the mode in which the poison acts, whether it is carried into the circulation by the absorbents, as is most probable, so as to effect a change in the whole blood, just as the poison of small-pox or syphilis does—(and we have seen that the blood had a peculiar appearance to the eye)—or whether, as is often supposed, it causes some mysterious effect upon the nerves of the injured part, and, through them, on the brain and nervous centres.

What it seems to me should be our endeavour is this—to make ourselves acquainted, if possible, with the earliest or preliminary symptoms; for most probably hydrophobia may always remain, as it has hitherto done, beyond our power, after the advanced stage in which alone it is now recognised has been reached. That there is such a precursory stage is certain in most instances, though they are so slight as usually to escape observation. In this boy nothing remarkable was noticed till about fifty or sixty hours before his death; but in many cases some indisposition has been complained of for a day or two beforehand; a feeling of uneasiness, chilliness, headache, weariness, or sleeplessness and restlessness, nothing more, in fact, than is often the result of derangement of the stomach and digestive organs, without fever in general; still, however, some symptoms may lurk behind which careful investigation of suspected cases months after a bite, even, may succeed in detecting, so as to lead to the discovery of a cure.

At the same time, that a cure of hydrophobia is possible, is rendered not unlikely, by the fact that rabies is sometimes cured, or recovered from, in dogs, of which there seems no doubt, from the experience of Mr. Youatt and others who have attended to the subject. So, also, it is perhaps sometimes in the human subject; at least more than one instance has been recorded in which several persons at once in the same family or neighbourhood have been bitten by the same animal, of whom one has died, and of the others some one or more have, about the same time, suffered from an indisposition—not fright—but like what I have just alluded to, from which they have recovered, and which might not have attracted notice but for the accompanying circumstances. This indisposition may have been *essentially* hydrophobia, though without coming to its usual stage. At any rate, I am convinced that in such a line of investigation alone is any cure to be anticipated.

Such then, gentlemen, are some of the reflections which this case furnishes to us, and our time allows, and, as it was to happen, I am glad that it has fallen under your notice, though I must say, as it is so frightful a disorder, I hope it will be long before you witness another of the same kind.

ON CERTAIN POINTS IN THE MECHANISM AND PHYSIOLOGY OF THE CIRCULATION OF THE BLOOD.

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(For the London Medical Gazette)

Since the discovery of the circulation by Harvey, numerous and important functions have at different periods been assigned to it; and every year tends to add to their number. Thus, among other uses, it is generally recognized as the instrument by which nutriment is conveyed to every part of the system, and effete and noxious matters are transmitted to their proper points of discharge. But while all agree in regarding the circulation as a chief means of intercommunication and transport, there is an extensive, and highly important class of functions, in the production of which this agent is, by the majority of physiologists, considered to exert but a partial and secondary influence. The functions to which I allude all involve either the discharge through the coats of the minute blood-vessels of certain matters previously present in the blood; or the entrance of various external substances into the mass of circulating fluid. Under the former of these divisions may be mentioned—

1st.—Nutrition, or that process by which a constant supply of their proper aliment is furnished from the blood-vessels to the different tissues of the body.

2dly.—Secretion, and excretion: and in the performance of these functions we may presume that the mechanism of *effusion* is similar, whether the matters discharged by the secreting organs are separated directly from the blood, or are maturated in an intermediate series of cells.

3dly.—Under the term vascular absorption, I would comprise all those functions which consist essentially in the entrance within the blood-vessels of various external substances.

Of the forces which produce this passage of fluids into and out of the blood-vessels, and of the laws by which these forces are regulated, we know very little with certainty. The explanation at present most generally received is that advanced by Magendie, Fodera, and other French physiologists, viz. that all these functions are referable to the power of capillarity inherent in the porous coats of the vessels, and are thus analogous to the phenomena of endosmosis and exosmosis.

To this doctrine it may be objected—

1st.—That the majority of experiments adduced in its support were performed with fluids stagnant, and subjected to equal pressure—conditions which can seldom or never occur, in precisely an equal degree, to the fluids situated on either surface of the minute blood-the living body.

2dly.—This hypothesis does not explain how, in particular organs, one or other action is permitted wholly to preponderate; and it is quite certain that the two processes of imbibition and absorption do not proceed simultaneously, and with equal degrees of activity, in all the organs of the body, and in every part of the smaller sanguiferous tubes; for if an equal amount of interchange took place in the animal body wherever two fluids are separated from each other by a thin membranous septum, we should, in this case, continually incur the danger of being

poisoned by the re-absorption of excreted noxious matters.

3dly.—The same viscidity and cohesiveness, which impede so powerfully the passage of the blood through its smaller vessels, must oppose a still greater amount of resistance to that minute separation of its particles which is necessary for the effusion of albumen through the invisible pores of membrane. And the difficulty of applying this power to the explanation of certain of the functions in question is still further increased, by the fact, that in experiments with viscid fluids, they are found to imbibe much more than they exhale.

It is true that the ordinary physical properties of membrane are said to be modified in the living body by peculiar physical causes, such as heat, electricity, &c. But from a consideration of these, and other reasons that might be mentioned, it would appear that this doctrine tends to invest the porosity of membrane, considered as a cause of motion, with much greater and more varied powers than it has been experimentally proved to possess; at the same time that the functions which are referred to those powers remain as unintelligible as ever. Nor can the mechanism of these processes be fully understood, till some force more active, more manageable, and more comprehensible, than any yet advanced, is applied to the elucidation of the subject.

In the course of the following remarks I shall endeavour to demonstrate that such a force does exist in the circulation of the blood; and that this agent produces all the effects in question by directly, or indirectly, occasioning a disproportion between the amount of pressure acting on the internal and external surfaces of the minute blood-vessels. The researches on which this opinion is based were undertaken with no other object in view than the discovery of the laws by which the passage of substances into, and out of, the blood-vessels is regulated. I have at present, therefore, nothing to say concerning the means by which the different tissues and cells imbibe and assimilate their nutriment, nor of the mode in which the embryo obtains a supply of plastic matter previously to the existence of its circulation.

In these cases, the capillarity of the investing membranes may, perhaps, in the absence of any more active force, still be considered as the chief instrument employed for this purpose.

On examining the apparatus contrived for the passage of the blood to and from the heart, we observe considerable differences to prevail in the structure of the two great systems of blood-vessels, and in the course of the currents through them.

Thus, the large arteries are thick, strong, and highly elastic, while the coats of the veins are much thinner, their structure more porous, and their elasticity less marked.

Again, the arterial blood passes from one great trunk, through several intermediate branches, into an infinite number of minute twigs; whereas, in the veins, innumerable small currents meet in more capacious vessels, by the convergence of which two or three large streams are ultimately formed.

It may further be remarked, that the arterial blood encounters numerous obstacles to its free passage into the veins; whereas, in the latter vessels, as a general rule, every facility is afforded in order to secure the free return of the vital fluid. A consideration of these and other peculiarities, therefore, naturally suggests the opinion, that the two great systems of blood-vessels are in health subservient to totally distinct, if not absolutely opposite, functions; and I shall now proceed to consider the facts which bear upon this conjecture.

PART I.—*Of the uses served in the animal economy by the various impediments which the blood encounters during its passage from the ventricles into the veins.*

The existence of numerous impediments to the free passage of the arterial blood is a fact so generally known and acknowledged, as to render unnecessary any thing more than a brief mention of some of the most important obstructing causes.

The first to be considered is the arborescent arrangement of the arteries; which not only increases the surface of the vessels, and thus augments the friction, but also implies the division of the main current into as many minute streams as there are arterial twigs. The impediment arising from this cause must be materially augmented by the great viscidity of the

blood; for the cohesion existing between its particles will oppose a considerable resistance to their necessary separation from each other.

2dly.—We have the obstacles to the flow of blood occasioned by gravity—the weight of adjacent parts—the friction consequent on the angular origin and tortuous course of the arterial branches—muscular contraction—the resistance of the blood previously contained in the vessels, and some of minor importance.

3dly.—The arterial blood, before entering the capillaries, has to encounter the impediment to its passage caused by the contractility of the smaller arteries and capillaries. In mentioning this vital property of the minute vessels as a chief obstacle to the progress of the arterial blood, I would beg to remark—1st, that our estimate of the aggregate amount of resistance opposite to the blood's passage through the small arteries is to be drawn from an examination of that encountered by the separate streams; and not from a vague calculation as to the relative areas of the aorta, and of its terminal branches; and 2dly, that as the contractility of the small arteries and capillaries can, during its action, only cause a diminution in the area of the tubes which they form, and as that power of contraction is more marked in the distal part of the arterial twigs than at their point of origin from the main branch, it should follow that each minute stream of arterial blood will, if there be any difference in this respect, rather flow from the wider to the narrow portion of the tube.

Now the existence of these obstacles being undoubted, and their sum being so very considerable, are we to regard them as defects in the constitution of the circulation—unavoidable perhaps, but nevertheless involving a certain loss of power which might otherwise have been usefully employed in propelling the blood? And if the mere passage of that fluid through its vessels be deemed the sole intelligible part of the circulation, if we are to forbear from inquiring in what mannner it produces its known beneficial effects upon the system, I do not see how some such supposition is to be avoided. But since it is possible that these very impediments to the circulation may in reality be contrivances adapted to the performance, by it, of some important functions, we are, I think, required, were it but in acknowldgement of the universal wisdom of nature's plans, to pause, before we pronounce these apparent imperfections altogether inoperative, or disadvantageous. It therefore remains for us to inquire whether any peculiarity in the physical condition of the arterial blood is induced by the existence of these obstructing causes. And supposing this question to be answered in the affirmative, it will still remain to determine how far that physical condition of this portion of the vital fluid is subservient to any physiological uses.

The first effect resulting from the peculiar form, arrangement, and vital properties of the arteries, is a diminishedrate of discharge of blood from the minute arterial ramifications into the capillaries and veins. And this is a necessary consequence of the established laws of hydraulics. For as any impediment to the passage of a fluid along its containing tube is known to diminish the rate of discharge from that tube, so, in like manner, must the impediments to the passage of blood through the small arteries cause the quantity of fluid leaving those vessels in a given time to be much less than what would escape from them in the same time, supposing those obstacles not to exist.

The only objection which strikes me as likely to be urged in opposition to this view is that embraced in the old opinion, that the arterial blood flows from the narrow to the wide portion of a conical tube, in consequence of the aggregate area of the minute arteries being greater than that of the aorta. But even if this statement were correct—though its truth has certainly not been satisfactorily demonstrated—it is nevertheless quite clear, that the obstacle to the blood's passage occasioned by the minute subdivision of the main current of viscid fluid, will more than counterbalance any advantage which might otherwise have been derived from the jointly increased calibre of the smaller arteries. So that the practical result, viz. the rate of discharge of blood from those vessels, will, as before stated, be precisely similar to what would be obtained were the arterial blood really to flow from the wide to the contracted portion of a tube.

The arrangement of the system of

arterial tubes is therefore such as to present greater facilities for the entrance of blood, at one end, from the heart into the aorta, than for its discharge at the other, from the small arteries and capillaries into the veins.

And consequently, if the ventricle invariably expelled the whole of its contents at each contraction, there would, during an excited action of the heart, be so great a disproportion between the rates of influx and efflux of the arterial blood, as to render a rupture of some of the containing vessels almost inevitable. But it appears to me that this evil is *to a certain extent* guarded against by the following simple provision—viz. that the opposition to the entrance of fresh fluid from the left ventricle into the aorta increases in a direct ratio to the amount of disproportion between the rates of influx and efflux of the arterial blood. This opposition to the flow of blood from the heart arises from the backward pressure of the mass of aortic blood, which after distending the arterial walls is by their reaction driven back upon the aortic orifice of the ventricle. And as the extent to which the aortic walls are distended is, cæteris paribus, proportioned to the quantity of blood detained in it at the time, and as the quantity of this blood is again wholly dependent upon the preponderance of the influx over the efflux of arterial blood, so it follows that whatever increases the disproportion between the rates of influx and efflux of that blood will at the same time add to its backward pressure, and thus impede the flow of fresh blood from the ventricle.

The condition which, in a healthy state of the body, regulates the efflux of blood from the arterial system, is evidently the contractility of the small arteries and capillaries — a force influenced by the nervous system, and known to be of varying activity; —while the influx of blood is still more distinctly referrible to the contractions of the ventricle.

Now if this cavity of the heart invariably emptied itself at each stroke, we might readily estimate the rate of influx of the arterial blood by ascertaining the number of its pulsations; but, from the previous reasoning, it appears more probable that the ventricle does not always expel the whole of its contents at each contraction, and that the extent to which it does so, at any one time, mainly depends upon the relative quantity of blood then contained within the aorta: for when the quantity of this detained blood, and the consequent distension of the aorta, are very much diminished, as after loss of blood, then the opposition to the influx of fresh fluid from the ventricle is so much reduced, that it may readily empty its contents into the aorta; but if the heart's action be suddenly increased at a time when the quantity of blood detained in the aorta is already very considerable, each contraction will but add to the resistance opposing the entrance of fresh fluid into the arterial system, and will thus prevent the ventricle from expelling the whole of its contents at each pulsation.

As the causes impeding the flow of blood through the arteries exist throughout the whole extent of that system of tubes, increasing in their amount of opposition until it reaches a maximum in the minute vessels immediately continuous with the veins, it follows that the act of accumulation or detention of a quantity of blood behind each impeding surface will also continue in operation from the origin of the aorta to a point corresponding with the most contracted portion of the capillaries.

The blood thus detained in the arterial system, being prevented from moving readily forwards by the impediments so often referred to, while it at the same time receives an onward impulse from each successive wave of blood which leaves the ventricle, must necessarily exist in a state of compression, and will, consequently, exert a certain amount of outward or lateral pressure. If the obstruction to the blood's passage through the arteries were complete, then the accumulated fluid would of course be stagnant, and, like all other stagnant fluids, would transmit the whole of the impelling pressure equally in all directions. But as the obstacles occurring in the arteries present only a partial obstruction to the blood's passage through those vessels, the distending force of the arterial blood cannot be estimated till we have previously determined in what proportion the lateral pressure of a fluid is increased by the existence of any impediment to its free discharge from the containing tube. The fol-

lowing experiments, though rude and not sufficiently extended for the finer purposes of physics, may perhaps enable us to form some idea of the rate of increase in the lateral pressure of a fluid under these circumstances.

Exp. I.—I took a small wooden vessel, holding about three gallons of water, and fitted, horizontally, to its lower part, a cylindrical tin pipe, three inches long and half an inch in diameter (fig. 1). On the upper surface of this

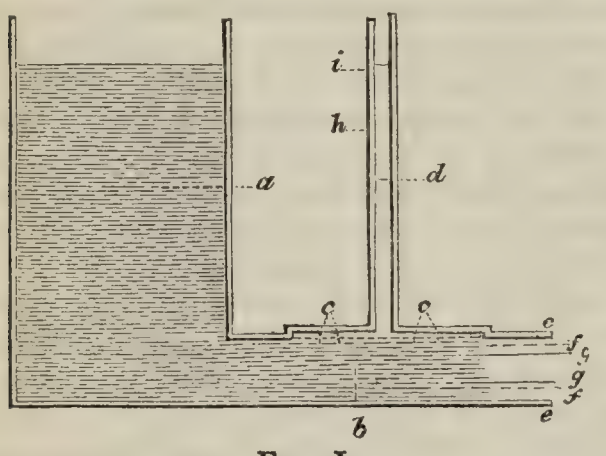


Fig. I.

a. The reservoir.
b. The horizontal pipe communicating through the minute apertures, *c. c.* with the interior of the vertical glass tube, *d*.
e. e. The external orifice of the horizontal pipe, of its full diameter.
f. f. The same reduced in diameter from ½ to ⅓ of an inch.
g. g. The same still further reduced to 1-6th of an inch.
h. The height to which the water rose in the glass tube when the diameter of the external orifice was reduced to *f. f.*
i. Its height at the time that the external orifice was contracted to *g. g.*

pipe, ten small holes, each about one-twelfth of an inch in diameter, were made at an equal distance from each other, so as to extend along the whole length of the pipe, with the exception of half an inch at either end: over these apertures an arched piece of tin was soldered, from the centre of which projected upwards a short branch, and into it was fitted, vertically, a glass tube, twenty inches long and one quarter of an inch in diameter. The junction of this tube with the short vertical branch was made water-tight, and the descent of the former into the main passage, through the tin pipe, was of course rendered impossible by the minuteness of the communicating apertures. The wooden vessel or reservoir was then filled with water to a height of twelve inches above the entrance of the tin pipe, and the column in it was maintained at the same elevation by the constant addition of fresh fluid. On removing a plug which had been previously placed at the inner orifice of the tin pipe, the water rushed through the latter, and escaped in a jet, sweeping, in this course, across the minute apertures which communicated with the interior of the glass tube.

During the whole of the time that this flow continued, there was no ascent of water in the glass tube; shewing that, if the stream traversing the tin pipe did exert *any* lateral pressure, its amount was so inconsiderable as to be incapable of raising a column of water to the height of one inch; for it would then have been perceptible in the tube.

Exp. II.—The apparatus being in every other respect untouched, a short straight tube, one-third of an inch in diameter, was so fastened into the centre of the outer orifice of the tin pipe as entirely to prevent any escape of fluid from the latter, with the exception of that which passed through this smaller tube. The height of the column maintained in the reservoir was the same as in the last experiment, viz. twelve inches. On then allowing the water to enter the tin pipe, and escape freely through its narrowed extremity, it instantly rose in the vertical glass tube to a height of nine inches, and continued at that elevation as long as the same column of water was maintained in the reservoir. On allowing the latter to fall to ten inches, the same proportion was still observed between its height, and that of the fluid in the glass tube, which had, during the same time, fallen to seven and a half inches.

Exp. III.—Every other condition being precisely similar, the tube one-third of an inch wide was withdrawn from the outer orifice of the tin pipe, and replaced by one one-sixth of an inch in diameter. On the re-admission of water into the tin pipe, it instantly rose in the glass tube to within half an inch of the height of the column in the reservoir, viz. to eleven and a half inches, though a jet one-sixth of an inch in diameter was, at the same time, escaping through the outer orifice of the horizontal pipe. A finger was now placed upon the inner orifice of this pipe, where it projected into the reservoir, and slowly drawn over it, so as gradually to diminish the area of the stream of water entering it; and it was observed that, in proportion as that diminution took place, there was a

corresponding fall of the fluid in the glass tube, till, with a certain extent of closure of the inner orifice, there ceased to be any ascent of water in the vertical tube.

When the column in the reservoir was allowed to fall, the same proportion between its height and that of the water in the glass tube was still preserved, the difference never exceeding half an inch.

In these experiments it was very evident that the amount of lateral pressure exerted by the water traversing the horizontal pipe, as measured by the height of the column in the glass tube, was altogether dependent on the degree of facility afforded to the passage of the fluid through that pipe, by the relative areas of its inner and outer orifices.

While the conditions affecting the influx and efflux were equal, the lateral pressure was very inconsiderable; but when the discharge was diminished by the application of an impediment to the outer orifice alone, then the lateral pressure increased in a very rapid ratio. Thus, in the second experiment, a diminution in the diameter of the outer orifice, from one-half to one-third of an inch, increased the lateral pressure of the contained fluid from something less than a column of water one inch in height to that of one nine inches high, which was equal to three-fourths of the whole impelling force; and in the last experiment, a diminution of the diameter of the external orifice to one-third, viz. from one-half to one-sixth of an inch, caused the lateral pressure of the fluid in the horizontal pipe to approach to within half an inch of that of the impelling column.

Before applying these principles to the fluid contained in the arteries, I may be allowed to repeat a former observation, viz. that whatever proportion the area of the aorta may bear to that of the sum of its terminal branches, the obstacles preventing the free passage of blood through the latter will diminish its rate of discharge from them as virtually as though their joint calibre were actually less than that of the main trunk; and as the amount of lateral pressure exerted by a moving fluid is wholly regulated by the relative facilities afforded to its passage into, and out of, the containing tube, so the various obstacles opposing the free course and discharge of the arterial blood will increase the lateral pressure of that fluid as effectually as the diminution of the external orifice of the pipe did in the foregoing experiments. The truth of this latter statement may also be proved by actual experiment.

Exp. IV.—Thus, having connected with the same reservoir a leaden pipe, a yard long, perfectly straight, of uniform calibre, and maintained in the horizontal position, I bored a small hole on its upper surface, at the distance of a few inches from its commencement. A full stream being then allowed to flow through it, there was no escape of water from this aperture, shewing that the lateral pressure exerted by the moving fluid was at a minimum. I now bent, laterally, the external half of the pipe, so as to cause it to describe a gradual curve, the horizontal position being still carefully preserved, and its calibre being apparently unaffected. But when the stream was again permitted to traverse it, the lateral pressure of the fluid detained behind the curve had increased so much as now to cause a small jet to escape through the aperture.

It is therefore evident that, in addition to contraction, any of those other peculiarities in the form and arrangement of tubes, which are known to diminish their power of discharge, will also increase the lateral pressure of the fluid contained behind the impeding portions of the tube; and as it has, moreover, been shewn that the amount of lateral pressure increases in a very rapid ratio on the application of any impediment to the free discharge of fluid from a tube, so it is rendered probable that the outward or distending pressure of the arterial blood is very considerable.

A question here arises as to the proportion which this lateral pressure of the arterial blood bears to the impelling power of the heart. The data which we possess may perhaps be deemed insufficient to warrant a positive answer, but, for the following reasons, I should imagine that these forces must generally be very nearly equal. The onward impulse of the arterial blood is supposed, from experiments performed on animals with the hæmadynamometer, to be equal, in man, to a column of the same fluid eight feet

high. Poiseuille has, moreover, found this impulse to be nearly equal in the chief arterial branches. Now it follows, from the arborescent arrangement of this system of tubes, that the force of the blood entering the carotid artery must be nearly the measure of the lateral pressure of the aortic blood; and as the impulse of the blood entering the femoral artery, which, in direction, is continuous with the aorta, is no greater than that of the blood driven into the carotid, which is a lateral branch, it would appear that the mass of aortic blood presses equally in all directions, its lateral being equal to its onward pressure*. And, from the facts and arguments before mentioned, it is equally evident that this great lateral pressure of the fluid contained in the arteries can only be occasioned by the existence of a considerable difference between the relative facilities afforded for the influx and efflux of the arterial blood. As to the absolute force of the outward pressure, it must necessarily be subject to a still more extensive range of variation than that of the onward impulse derived from the heart's action; for it is equally affected by a change in the condition of the heart, or of the smaller vessels, both which changes are continually occurring. It may therefore, in the same individual, be at one time so slight as to be incapable of accomplishing its healthy uses, while, at another period, its distending power may be so considerable as to rupture some of the containing vessels, and thus threaten the destruction of life.

Having, I trust, satisfactorily proved that the whole mass of arterial blood exerts, during health, a considerable amount of outward or distending pressure, it now only remains for me to consider the second point which I proposed for examination, viz. whether any uses are served in the animal economy by the existence of this peculiar physical condition of the arterial blood; and, in studying the physiological effects resulting from the operation of this force, it will be necessary to view it as existing, first, in the large arteries, and, secondly, in the minute arterial ramifications; for as the physical and vital properties of these vessels are essentially different, so will the application of the same distending force produce, in each, totally distinct phenomena.

The coats of the large arteries being dense, thick, and highly distensible, it is evident that an accumulation of blood in, and a forcible distension of, those elastic tubes, are the only effects which *can* occur from the detention within them of a quantity of highly compressed blood; for the escape of any portion of the contained fluid through the pores of the investing tissues is prevented by the great thickness and dense structure of the arterial tunics. It is also quite clear that any considerable accumulation of fluid can only take place in a tube when the walls of that tube are either flaccid or elastic; and that, in the latter case, the amount of the accumulation will, to a certain extent, be regulated by the distending power of the contained fluid. Since, therefore, various functions have been traced to the reaction of the elastic coats of the large arteries upon the distending force of the blood accumulated within them, and since that distending force has been shewn to be no other than the lateral pressure of the arterial blood, we are, I conceive, now authorized to advance a step further, and say, that the functions in question are referrible to that lateral pressure as to the cause essentially producing them. The uses to which I more particularly allude are the equal distribution of the heart's impulse throughout the system, and the uniform and equable flow of blood through the capillaries and veins.

The properties of the smaller arteries are so very different from those of the vessels we have just been considering, that it is impossible to arrive at any satisfactory conclusion as to the effects induced in the former by the lateral pressure of the arterial blood, without determining and bearing in mind their distinctive peculiarities. They form a series of minute porous tubes, the coats of which, being highly contractile, are, in their healthy state, continually resisting the dilating pressure of the contained blood. In their relation, therefore, to that contained fluid, they represent so many rigid tubes. In them there is consequently no considerable accumulation of blood, nor do we find any functions performed by the elas-

* An experiment with the hæmadynamometer, on the renal artery, which arises from the aorta at a right angle, would remove all doubt on this point.

ticity of their investing tissues. But other and still more important effects are here induced by the lateral pressure of the arterial blood, for by the operation of this force there is a constant exudation of certain portions of the blood through the thin and porous coats of these minute vessels. For proofs, that compression of the blood in its smaller vessels will cause its effusion through the coats of the latter, and that the nature of this effusion is mainly regulated by the degree of that compression, I beg to refer to a paper contained in the last volume of the Medico-Chirurgical Transactions: in it will be found an account of some experiments in which, on directing an increased flow of blood through one renal artery (by obstructing the abdominal aorta and the blood-vessels of the other kidney), various component parts of the blood, viz., liquid albumen, fibrinous and coloured coagula, were found in the secretion of the organ thus inordinately supplied.

But the observation which bears most directly on the present point is this—that on examining these hypertrophied kidneys at the end of a few hours, I generally found the primary divisions of the renal artery imbedded in a quantity of liquor sanguinis, which the unnatural compression of the contained blood had expelled through their porous coats. Since, therefore, an additional degree of compression of the blood is capable of forcing its most viscid parts through the coats of vessels which, from their thickness, must oppose a very great resistance to the passage of fluid through their pores, we cannot, I think, avoid the conclusion, that a constant, though slow, and, to the naked eye, imperceptible, process of albuminous effusion through the thin porous coats of the minute arteries, is a necessary consequence of the existence in each of them of a distending column of blood. This process of effusion must necessarily take place whenever the pressure acting on the internal surface of the membranous tube is greater than that of the medium in which the tube or vessel is placed. And if, at any one point, the resistance of the medium be less than the outward or lateral pressure of the contained fluid, then effusion will occur at that point only. For so long as an amount of pressure greater than the dilating or lateral force of the contained fluid is applied on the external surface of a porous tube, the escape of that fluid through these minute lateral openings is evidently rendered as impossible as though the latter did not exist at all. In the living body the different tissues situated between the smaller blood-vessels will represent the medium in which the latter are placed; and its resistance is evidently insufficient wholly to repress, though it probably limits within certain bounds, the tendency to effusion resulting from the compression of the blood in the smaller arteries. There is, therefore, from this source, a constant effusion of albuminous fluid into the intervascular spaces, and a supply of their proper nutriment is thus brought in immediate contact with the tissues of the body.

The absolute force of the lateral pressure of the blood contained in the smaller arteries of a particular part, will, equally with that of its onward pressure, be affected by any change in the area of the main arterial branch supplying them. Whatever, then, increases the supply of blood to a part, will, at the same time, increase the amount of lateral pressure acting on the inner surface of the coats of the small arteries of that part. The functions to which that lateral pressure is there subservient must consequently, at this time also, be performed with unusual activity. And this reasoning is fully corroborated by the connection invariably observed in health and in disease between the activity of the nutritive process and the rate of supply of blood to a part, as estimated by the number and calibre of the arterial trunks connected with it.

A similar preponderance of the pressure acting on the internal surface of the coats of the smaller arteries will undoubtedly assist in causing that separation or exudation of certain portions of the blood which constitutes the first stage in the processes of secretion and excretion. But as the capillaries, or intermediate vessels, are generally considered to exercise a still more important influence in the performance of these functions, it becomes necessary to consider how far the preceding views are applicable to this part of the circulating system. And on considering the endless varieties that are observed to prevail in different organs of the body,

in respect to the relative length, number, arrangement, and connection of these vessels with the adjacent arteries and veins, the following are those conclusions which appear to derive the greatest amount of support from the knowledge already possessed on the subject. Wherever, in an arborescent arrangement of vessels, the blood flows from a main branch into numerons collateral twigs, it must encounter more or less obstruction during its passage through the latter, and will consequently continue to exert a certain amount of lateral pressure until it has traversed the most contracted portion of the tubes. In those organs where a peculiar disposition of the vessels impedes the flow of blood from the capillaries into the veins, the same effect, viz., an increase in the lateral pressure of the capillary streams, must follow the diminished rate of discharge from the capillaries thus induced. The causes of this partial obstruction may be seated either in the capillaries themselves, or in the adjacent veins. In some organs, as in the Malpighian tufts of the kidney, their own arrangement is a considerable source of obstruction to the blood traversing the former vessels. And in other parts, a tortuous course of the neighbouring veins, gravity, or any other cause which impedes the return of venous blood, must, at the same time, induce a corresponding increase in the amount of lateral pressure of the blood contained in the capillaries supplying those veins. But it is chiefly in secreting structures that a disposition of parts so unfavourable to the free circulation of the blood through the capillaries is observed to occur. And on applying to these cases the law frequently referred to, viz., that any impediment to the passage of a fluid increases the amount of its lateral pressure, how are we to avoid the conclusion that this peculiar physical condition of the blood contained in the capillaries of secreting organs is a provision of nature for the accomplishment of the necessary exudation of certain portions of that compressed fluid? The blood contained in the capillaries of different parts of the body must therefore exert different degrees of lateral pressure according as the impediments to its passage into the veins are more or less considerable. An opinion formerly prevailed, supported by Keil, Hales, and other physiologists, that the extraordinary impediments to the free return of the venous blood, which are almost invariably observed in organs whose natural secretion is highly albuminous, are, in some way or other, connected with that peculiarity in the secreted fluid. Our knowledge of the minute anatomy of some of these organs is perhaps too imperfect to justify a positive conclusion on the subject. But the relative viscidity of an effused fluid being, by the facts before referred to, shown to depend upon the degree of compression endured by the blood contained in the small vessels; and the anatomical arrangement of the blood-vessels of these glands furnishing the impediment necessary for the compression of the blood circulating through them; these two considerations do appear to me sufficient to invest the old doctrine with a certain degree of probability. Physiologists are too unsettled in their views of the process of secretion to render necessary many additional remarks in applying the general law of effusion to this particular function. For whether the secreted matters be derived directly from the blood by a process of filtration, or are the results of various chemical changes effected in that effused fluid by the peculiar physical conditions to which it is subjected previous to its final discharge, or are generated according to vital laws in cells developed by vital powers similar to those concerned in the process of growth, or, as is perhaps most probable, by the conjoint operation of all these agencies, it is in each case equally evident that a constant supply of material will be required; and this supply can only be obtained from the blood-vessels of the secreting structure. It is unnecessary to recapitulate any of the former arguments for the purpose of proving that this effusion is due to the expelling force constituted by the lateral pressure of the blood contained in these vessels. But in closing this part of my subject, I may remark—1st, That the free surface on which secretion invariably occurs is another provision for facilitating the process of effusion, by substituting a less resisting for a denser medium: so that the vessels are less firmly supported on that side than on the rest of their circumference. The influence of a

free surface, or of a loose structure, in facilitating effusion, is also strikingly exemplified in many of the phenomena of disease, and is clearly referrible to the diminished pressure then acting on the exterior of the minute blood-vessels: and, 2dly, that the different degrees of compression which the blood endures in the capillaries of different glands will probably exercise considerable influence in modifying the nature of their secretion.

The capillaries distributed throughout the rest of the body will, at their junction with the minute arteries, assist the latter in the performance of the function of nutrition. The extent to which their share is limited, must, in each organ or structure, be mainly regulated by the relative facilities afforded to the passage of the blood into and from them. But in the following division of this memoir I shall mention some reasons in support of the opinion, that these vessels, more especially their terminating portions, are intimately connected with the adjacent venous radicles in the performance of the opposite function of absorption.

It may by some be considered that the foregoing views have too great a tendency to withdraw the functions of secretion and nutrition from the sphere of influence of the nervous system. But as it is generally acknowledged that the nerves possess the power of affecting the contractility of the blood-vessels so as to increase or diminish their calibre, and also that of the pores existing in their walls; and as that increase or diminution in the relative size of different portions of the blood-vessels of an organ must necessarily be followed by corresponding changes in the amount of lateral pressure acting on the internal surface of those vessels: this doctrine is in reality calculated to establish a still more intimate connection between the nervous system and these functions, by showing how the former is enabled to control the activity, and, at the same time, to modify to a certain extent the character, of the latter. I have now successively endeavoured to prove—

1. That the obstacles to the free passage of the arterial blood prevent the small arteries from discharging into the veins more than a limited quantity of blood in a given time.

2. That as the blood encounters fewer impediments in flowing into, than in escaping from, the arterial system, its rate of influx has a constant tendency to preponderate over its rate of efflux into the veins.

3. That the amount of this disproportion is ever varying; and that the evils which a great excess would occasion are probably in some measure obviated by the circumstance of the opposition to the influx of blood into the arterial system increasing in a direct ratio to the amount of disproportion between it and the rate of the efflux of blood into the veins.

4. That the whole mass of blood contained in the arterial system, from the heart to the most contracted portion of the capillaries, exerts a lateral pressure, the degree of which is altogether dependent upon the relative facilities afforded to the entrance of blood into, and its discharge from, that system of vessels.

5. That the lateral pressure of the blood contained within the arteries is probably equal to its onward pressure, so that the arterial blood will press equally in all directions.

6. That this lateral pressure of the arterial blood is the force which maintains the large arteries in a state of distension, and thus enables their elastic walls so to re-act upon their contents as to be the means of accomplishing various useful purposes in the animal economy.

7. That the same force acting on the interior of the minute porous arteries causes that slight but constant exudation of certain portions of the blood which is indispensable to the performance of the important functions of secretion and nutrition.

8. That the blood contained in the commencement of the capillaries being subservient to the same uses, is also made to exercise some lateral pressure, the degree of which varies in different structures, but is probably never quite equal to that of the onward impulse of the same column of blood.

In conclusion, it may be remarked that as those impediments which limit the rate of the discharge of blood from the arterial system constitute the first and essential cause of all the subsequent phenomena, so the uses served in the body by the existence of these peculiar

physical effects are, with them, clearly referrible to the same apparent imperfection in the mechanism of the circulation.

[To be continued.]

RECORD OF CASES.

By Thomas Mayo, M.D. F.R.S.
Physician to the Infirmary of St. Marylebone.

(For the Medical Gazette.)

[Continued from p. 402.]

Puerperal Insanity.

Speaking of puerperal insanity, in the Library of Practical Medicine, Dr. Prichard observes, that "the disease is one of indirect debility, and is perhaps analogous, in some of its pathological conditions, to instances of delirium tremens, or delirium traumaticum, and to some forms of febrile delirium—those, namely, in which the pulse is weak, and small, and rapid, and the skin relaxed. A moderate and judicious use of stimuli, and especially of wine, is, in these instances, productive of the greatest advantages, whilst an opposite method almost certainly leads to a calamitous result."

I know no better ground than that afforded by the above description of an important disease, for an enumeration of *ordinary* cases, such as I promised at the outset of these contributions, not as exceptions, but as illustrations, of the disease or general head under which they fall. The pathological and therapeutical principles laid down, as above, by Dr. Prichard, I believe to be of great general truth. On the other hand, I believe that the cases of puerperal insanity which I shall proceed to describe are not unfrequent forms of the disorder, and that the practice pursued in them has no peculiar feature constituting it an exception to the ordinary rules of practice. And yet I may fairly affirm, that the description quoted above, from Dr. Prichard, would not afford any clue to the conception either of those cases or of that practice. The principle involved in it is thus not valueless only, but even dangerous, unless contemplated in immediate reference to actual cases.

I may be answered, that experience will supply us with distinctions as to the varieties of treatment and disease falling under general heads. This is most true; but the younger members of the profession must be well aware that hospitals and dispensaries are not always within their reach, and that private practice arrives slowly. Therein consists the advantage of that enumeration of ordinary cases to which I have above adverted, as subsidiary to the slow growth of personal experience.

Mary Ann Saunders, æt. 27, admitted into the Infirmary of St. Marylebone June 2d, 1841, had been delivered of a healthy infant three weeks before. She was a strong, well-made person, of a fair complexion. Her lochia had been deficient; delirium came on at the end of a week after her confinement, and had then been quieted by large doses of the Liq. Opii Sedativus. Lately I understand that she has been much purged. She is now incoherent and excited.

> Sumat Ammoniæ Sesquicarbon. gr. vj.; Confect. Aromat. gr. x.; Misturæ Camphoræ, ℥iss. 6tis horis.

5th.—Less violent; she takes her food (milk diet) freely. Sleeps calmly; breathes quietly; pulse sharp, 100; offensive greenish dischargefromvagina.

> Perstet.—Sumat. Hyd. c. Cretâ, gr. v. 8vis horis.

7th.—Pulse reduced to 80, softer; tongue more moist, clean; bowels gently open; sleeps quietly; she is more rational.

10th.—She was restless last night; the bowels full, not flatulent; urine scanty; her manner dull—towards evening it became restless.

> In the morning, I ordered that the powder be continued, with one grain of squills, and the previous mixture. In the evening, there being pyrexia, with a sharp pulse, Cucurb. Cruentæ ad ℥vj.; Liquor. Opii Sedativ. ♏ xxv.; Lotio frigida capiti.

12th.—She was much relieved by the Cucurb. &c.; did not sleep much, but more than the preceding night; pulse quick, not sharp; tongue dryish; bowels very open; urine increased.

> Pil. Hydrarg. Pulv. Ipecac. co. aa. gr. iiss. 6tis. Tinct. Hyoscyam. ℥ss.; Mist. Camph. ℥j. 8vis.

13th.—Much more coherent; has to-day twice had voluntary motions, having recently passed them without calling for assistance.—Perstet.

15th.—The tongue was clean, and she had been relieved by an aperient draught this morning. Urine also had passed after 24 hours' intermission; but the pulse was quick and sharp.

Cucurb. Cruentæ Nuchæ ad ʒviij. Pil. Hyd. Chlor. Co. gr. iij.; Morph. Muriat. gr. ¼ 8vis.

17th.—Pulse still sharp; motions voluntary; but abdomen tense; refusal to take food, and extreme waywardness and incoherency.

Emplast. Lyttæ capiti raso; Pil. ut supra bis quotidie.

18th.—Haust. Aperitiv. ex Ol. Terebinth. ʒiij. statim.

℞ Hydrarg. Chlorid. gr. ij. 6tis.

19th.—Abdomen flaccid and soft to-day. Pulse soft. Motions copious, and again uncontrolled. Tongue red and dry. She is quiet, but cannot answer questions. She has had, and is taking,

Mist. Ætheris Co. ʒiss. 8vis.

20th.—She is better, and has slept tolerably; pulse quiet; skin cool; face composed; belly soft; bowels open; urine plentiful.—Perstet.

22d.—Hyd. Chlorid. gr. ij. bis quotidie.

23d.—Ptyalism moderate: from this time she became, and continued, much better, to

July 3d, when she was suddenly violent; her pulse 90, and sharp; tongue clean but dry; head very hot. The bowels were open; no mercury had been taken since the 23d.

Hyd. Chlorid. gr. v. statim. Hirudines, viij. vertici.

6th.—She had been much relieved by the leeches; pulse still sharp; violent perspirations.

During the remainder of this month, she continued free from febrile symptoms, or sharpness of pulse; and she seemed generally to understand what was addressed to her, but made no reply. One commencing exacerbation was checked by

Hydrarg. Chlorid. gr. v.; Opii. gr. j.

She was now allowed three ounces of meat daily.

August 2d. — Baln. pluviale quotid. Haust. effervescens ter.

13th.—The shower-bath has agreed well. For the first time to-day she has answered some questions naturally and with readiness. Pulse quiet. Skin very cool. She complains of some headache.

Coffee and two eggs, instead of meat.

19th.—This morning she has been irritable since the shower-bath.

Let it be left off.

28th.—Irritable, and disposed to turbulence.

Sumat Pulv. rad. Ipecac. gr. iv. 8vis.

September 1st.—Not nauseated by the powders; still rather turbulent. Pulse low; off her food; but tongue clean.

Let her resume the shower-bath and leave off the powders.

5th.—Quiet, but also very dull. Pulse low.

Sumat Træ. Ferri Ammoniat. ♏xv.; Vin. Ipecac. ♏xv. e Mist. Camphoræ, 8vis.; Pil. Colocynth. Co. p. r. n.

16th.—Much better.

She was discharged as well, October 2d. But her temper was wayward; and her catamenia had not yet returned.

Mary Roberts, æt. 34, October 24th, 1841, of good previous health, full, fair person, was confined a fortnight ago, nursed her infant, which has been recently removed on account of her violence; does not seem to miss it; wanders, and runs on incoherently, calling herself the Virgin Mary. She has been insane after a former confinement; and then was at an asylum. The lochia are trifling in quantity.

Sumat Mist. Camph. ʒxj.; Træ. Humuli, ʒss.; Liquor. Opii Sedat. ♏v.; Potassæ Bicarbonat. ℈ss. 6tis.; Ol. Ricini, cost. med. j. cras mane.

25th. — Bowels have been freely opened. She is very restless and irritable, but has no sharpness of pulse.

Pt. in usu Haust. Pil. Calomel c. Morphiæ Muriat. o. n. Diet two eggs, and beef-tea.

26th.—Sleepless during last night; eye glistening; delirium violent; bowels open. Both pill and mixture have been refused.

Suppositorium ex Opii grs. iij.; Sapon. Hispan. q. s. inserend.

27th.—The suppositorium had been retained; she has slept well for two hours, and is much quieter; has taken

some arrow root, having recently refused all food.

Repetatur suppositorium nocte si sit opus.

28th.—An enema terebinthinæ, ℥j., was ordered this morning, the night having been restless, and the motions dark, offensive, and scanty.

29th.—A good night after the enema, seven hours sleep; very large evacuations; the pulse soft; she is quiet, takes food, and looks better.

Another enema on the 30th produced little effect, and no benefit. Much turbulence, without flushing or action of pulse.

Liquor. Opii Sedativ. ♏xxx., were given ineffectually on the night of the 31st, and five grains of calomel equally so, in respect to her turbulence, on the night of November the 1st, though this latter dose relieved the bowels freely of dark fæces.

November 2d.—Dulness, and in the course of the day stupor took the place of turbulence. In this state she was cupped ad ℥viij., and finally was roused from it by sinapisms after some hours. The bowels were open, but for twenty-four hours no urine was made.

Sumat Hyd. Chlorid. gr. ss.; Ext. Conii gr. iij. 6tis. Pil. Colocynth. C. p. r. n.

6th.—Moderate ptyalism, with remission of all her symptoms.

From this time to the 20th of of November, when my notes of the case cease, she continued free from exacerbation; and though sometimes incoherent, both able and willing to answer questions. The improvement here noticed was certainly most obvious while she was under the influence of the mercury, particularly in relation to her temper. Her physical health improved in an equal degree.

The ultimate prospects of this case were not as favourable as those of the first one. Strong predisposition had been shewn in the repetition of the disorder.

In both these cases, it will be observed, that improvement of a marked kind was contemporaneous with moderate ptyalism.

[To be continued.]

REPORT
ON THE
ROYAL MATERNITY CHARITY.

By F. H. Ramsbotham, M.D.

(For the London Medical Gazette.)

[Continued from p. 399.]

During the year 1840, there were delivered in the Eastern District of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham,—

2173 *women—Of which cases,*

27 were twins—being one in every 80½ cases: of these in 11 both heads presented; in 14 the presentations were head and breech, or some part of the inferior extremities; in 2 both were breech or inferior extremities. In 11 of these cases both children were boys; in 7 both girls; and in 9 of different sexes.

1144 were males.

1056 were females.

2131 were presentations of some part of the head, of which 9 were face presentations—about one in every 244½ births.

60 were presentations of the breech, or some part of the inferior extremities—about 1 in every 36⅔ births; of these 18 were twins.

9 were transverse presentations—about 1 in every 244½ births; all were at full time, except 1 at 7½ months; all were delivered by "turning;" 4 were living; 5 still-born. One was the woman's third child; and all she had borne presented transversely.

In 10 the placenta was implanted over the os uteri; 6 entirely; 4 partially—one in every 220 cases. All the women were delivered by "turning;" except two, in whom the placenta was only partially covering the mouth; one of these was delivered naturally five hours after the membranes were ruptured designedly; the flooding ceased on the escape of the waters, and the woman did well. In the other case, as the hæmorrhage continued after the membranes were broken, when the head had descended sufficiently low, the forceps was applied. The woman never rallied, and died within an hour and a half. Another woman also died in an hour and a half after delivery. Another on the fourth day; and another,

who was delivered at 7 months, on the thirteenth day. All these women lost a large quantity of blood; and not one of the children was saved.

10 were complicated with alarming hæmorrhage before delivery, *not* the result of placental presentation—one in every 220 cases. All these women were delivered naturally; the hæmorrhage being controlled by the rupture of the membranes. Three of the children were born alive; seven dead. All the women did well.

In 9 the placenta was retained within the uterus, either by atony, or irregular contraction of the uterine fibres, or by morbid adhesion between the uterine and placental surfaces, requiring the introduction of the hand for its removal—about one in every 244½ cases. With all these there was considerable hæmorrhage. One was a case of twins. One was a shoulder presentation at 7 months. Two of the women died; one five weeks after delivery, of irritative fever, the effects of the loss of blood; the other in 11 days; there was a large polypus within the uterus, which sloughed off after labour; under the irritation consequent upon which process she sank.

4 were delivered by craniotomy—about one in every 543 cases; they were all first labours, and in all the cases the pelvis was contracted in its dimensions; in three at the brim; in one at the outlet and cavity. In one the funis prolapsed. Where the pelvis was contracted at its outlet the head was strongly impacted, and the child was putrid. All the women did well.

6 were delivered by the forceps; two by the long, and four by the short instrument—about one in every 362 cases. One of these cases was a partial placental presentation; the child was still-born, and the woman died in an hour and a half. Another woman died in a week from hysteritis. Where the long forceps was used, in both the cases the pelvis was contracted at the brim; in neither could an ear be felt; in each the face was looking towards the right groin; both were primary labours; both the children were born living; and both the women did well. Besides the child mentioned above, three others were still born.

1 was complicated with convulsions after delivery. It was the woman's first child. She was in active labour about seven hours, during which time she suffered greatly from sickness and drowsiness, with some "snoring" between the pains; but she did not complain of headache, and was perfectly sensible. She continued quite sensible to every thing around her for six hours after the birth of the child, when she suddenly went into a convulsive fit. She was speedily bled largely, and had leeches applied to the temples. She remained, however, quite insensible, and the fits recurred both frequently and with great violence; altogether she had had twenty-four when I first saw her, about ten hours from the attack. She was then perfectly unconscious, rolling about the bed, and moaning distressingly. She was again bled to about 25 ounces; this second bleeding put a stop to the fits, and she had none after. She continued in the same state of insensibility, however, for twelve hours longer, when she began to recover her consciousness, and it returned gradually. She eventually got quite well. When I saw her for the first time, after her sensibility returned, she told me she was quite sure the child was not her's, because she had had no pain; and although she had appeared perfectly conscious to every thing that had happened during the whole of her labour, and for six hours after, yet she recollected nothing of it, and had only a faint remembrance of the midwife being fetched, which was more than fifteen hours before the first fit occurred. I have remarked, on many other occasions of recovery after puerperal convulsions, the same obliviousness in regard to events that had occurred many hours previous to the attack, at a time when the patient appeared to have perfect possession of all her mental faculties. For a striking case of this kind I would refer to my work on the Principles of Obstetric Medicine and Surgery, p. 584, note.

8 women died either within the puerperal month, or from puerperal causes—one in every 271½ cases; 7 only, however, as a consequence of labour, for one woman died from the effects of a sloughing polypus—being one in about every 310 cases.

2120 children were born living.

80 children were born still—one in every 27¾ births.

Of the Deaths,

4 were from the effects of hæmor-

rhage under placental presentation; one an hour and a half after delivery by "turning;" one an hour and a half after delivery by the forceps—a partial placental presentation; one on the 4th, and the other on the 13th day after delivery by "turning."

1 a week after delivery by the forceps, from hysteritis.

1 from peritonitis, on the 5th day after delivery.

1 from fever, 5 weeks after delivery; there had been an adherent placenta and great hæmorrhage.

1 from the effects of a sloughing polypus of large size within the uterus, on the 11th day after labour; there had also been an adherent placenta.

Of the still-born children,

10 were premature; 1 was a placental presentation.

14 were putrid, at full time, or nearly so.

8 were breech presentations, at full time, or nearly so; two of these were twins.

5 were transverse presentations.

With 8 the funis prolapsed by the side of the head; in one other case of prolapsed funis the child was born living. The funis also prolapsed by the side of the breech in three cases; all the children were born dead, and in one shoulder case; this child was delivered by "turning," and born living.

With 1 the funis was five times coiled around the neck.

1 was a face case.

4 were delivered by craniotomy.

2 were delivered by the forceps; besides the case of partial placental presentation.

9 under placental presentation; 3 of these were partial; 1 was delivered by the forceps.

6 under dangerous accidental hæmorrhage; another was born still after accidental hæmorrhage, but being putrid it is classed with those above.

2 were under very lingering labours.

3 were born after the mothers had suffered from accident or alarm.

1 was monstrous. The mother was dropsical.

1 had universal dropsy. The woman always became dropsical when pregnant, and this was the third dropsical child she had had. There was an immense quantity of liquor amnii, and an enormously large placenta.

5 were at full time, or nearly so, not putrid, nor delivered by art; there being no assignable cause for the calamity. One was a first child of twins.

DISLOCATION OF THE METATARSUS.

To the Editor of the Medical Gazette.

SIR,

THE insertion of the following case of a rare dislocation, in your valuable periodical, will oblige your constant reader,

JAMES KIRK, M.C.

405, Gallowgate, Glasgow,
May 30th, 1844.

In the month of May last, I was called in a hurry to a mill in the neighbourhood, to see a woman who was said to have her foot out of joint; and on arriving found this to be actually the case; the patient, a pale, thin, middle-aged woman, having suffered a partial dislocation of the metatarsus from the tarsus. The metatarsus was driven inwards, and formed a projection to the extent of an inch on the inside of the foot, and left a corresponding depression on the outside.

The reduction, which was easily accomplished, was effected by grasping the tarsus in one hand, and the metatarsus in the other, and pulling or pressing in the direction calculated to bring the articulating surfaces into apposition with one another. A bandage was then applied to the foot, and the patient was sent home. On visiting her next day, at her own house, the foot was found to be so much swelled, and so painful, that the bandage could not be borne; it was removed, and an evaporating lotion substituted; the patient was desired to lie on her back, and to keep her foot straight by means of a pillow placed on each side of the limb.

Five days afterwards, the swelling, heat, and ecchymosis, having disappeared, the bandage was reapplied, and the patient was allowed to sit up; but was instructed to be very cautious in using the foot.

As might be expected, this woman was confined to the house, and walked lame for a considerable time afterwards.

CASE OF OLD STRICTURE IN THE URETHRA, SUCCESSFULLY OPERATED ON BY THE LANCETTED STILETTE.

To the Editor of the Medical Gazette.

SIR,

By inserting the following case of old stricture in the urethra, successfully, operated on by the lancetted stilette, you will oblige,

Your obedient servant,

J. M. WALKER.

Newcastle-on-Tyne, May 22d, 1844.

J. R. W. aged 56, has had strictures in the urethra for twenty years, and for the last four has passed his urine, at various times, from four fistulous openings in the perineum; has had nothing done for four years, except once when the gentleman he was under attempted to pass a bougie for him without success. He has partial paralysis of the right side, of recent date, and his general health, for some time, has been so bad as to preclude any treatment by bougies. I proposed to him, in consequence of the miserable condition he was in, being obliged to leave his bed as often as ten times in a night, to perforate the stricture; and on the 3d of May last, in the presence of Mr. Heath, one of the Infirmary surgeons, and my friend Mr. Miller, of this town, I proceeded in the following manner:—

The straight armed catheter, of the fashion and make recommended by Mr. Stafford, was introduced up to the stricture, which was two inches from the orifice, and from that point, for five inches, the urethra was felt as a hard cartilaginous mass; the stilette was pushed on until we obtained six inches and a half from the orifice; it was then agreed not to proceed any further that day.

On the 6th the armed curved catheter was introduced as far as we had proceeded before. Adhesions were found to have formed, but they were easily overcome. After pushing on the stilette for one inch, we again decided to rest a day.

On the 8th the same instrument was introduced up to the point we left off at on the 6th, and after a little difficulty I felt the instrument begin to glide smoothly on towards the bladder. The instrument was left in for two hours, after which time, when I called, observing the urine escaping past the instrument, I removed it. Its withdrawal was followed by a full stream, which, however, soon failed and stopped; I then introduced a catheter, and removed the remaining urine. Considerable uneasiness is felt at the seat of the prostate when the catheter is introduced, so much so as to prevent the instrument from being retained for any length of time; but as I soon found that it was only necessary to go beyond the fistulous opening to obtain all that seemed desirable, I now used a straight catheter passed up to that point, and the urine escapes freely through it. The remaining fistulous opening will now have a chance of healing.

The operation thus performed, I believe to be unquestionably safe; I found it extremely easy of performance.—Should a similar case present itself again, I should prefer using for it the straight instrument only; and probably a stilette differently constructed, by having another cutting blade in the opposite direction, so as to make a crucial incision, which would enable the catheter or bougie to pass more easily.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

The Causes, Nature, Diagnosis, and Treatment of Acute Hydrocephalus. —An Essay to which the Medical Society of London awarded the Fothergillian Gold Medal for 1842. By JAMES RISDON BENNETT, M.D. &c. &c.

PRIZE essays are often very useful books. He who carries off the palm, has commonly enough, in these days especially, more than one competitor, so that his work may fairly be looked on as the best sample which the world of intellect can produce at the time. The prize itself is always small; the honour of winning it is proportionally great. The price paid is nothing; the praise that follows success is all: and "ambition," a term which, in connection with matters medical, we assume to mean "a desire of honourable distinction among our fellows," we are assured, on high authority, is "the last infirmity of noble minds." Persuaded that all works to ultimate good in this

world of ours, we look on the Fothergillian prize, and the Jacksonian prize as endowments creditable to their founders, convenient as giving to the rising members of our profession a fair opportunity for trying a flight by themselves; and when they prove the means of eliciting such publications as that the title of which heads this article, instrumental in adding another to our list of good books, and a good book is the best and highest bequest that man can leave the world in which he has lived, and by way of making some return for the modicum of good it has done him during his life.

The competitors for prizes are commonly somewhat young men, and now that we have passed our grand climacteric—alas that we should have to say so!—we own that the books of our younger brethren rarely satisfy us, rarely suit our ancient palate. There is a greenness, a necessary immaturity about the work of a young medical author, that impresses the older and more cultivated sense unfavourably. In perusing Dr. Bennett's work, we escape this setting of the teeth on edge; we find that we have the production of a man who has attained to maturity of judgment along with maturity of years. This Essay on Acute Hydrocephalus is not written for the nonce, and with the peculiar purpose, as it were, of winning the Fothergillian gold medal. Attached for many years to one of the largest and most liberally endowed of our metropolitan dispensaries, where the opportunities of seeing and studying disease are all but unlimited, Dr. Bennett had had his mind directed to the subject of hydrocephalus long before it was proposed as the theme of any prize essay; and he may be said rather to have come out under the ægis of the Fothergillian medal than to be its progeny, its consequence or effect. The gage he has won is but the Waterloo medal at the button-hole of the veteran already distinguished in arms before he beat Napoleon at La Haye Sainte. We have the work some few years probably before it would otherwise have appeared, because the Medical Society of London proposed its subject for their Fothergillian prize, and we are glad that they did so, seeing the fruit which that proposition has borne.

Dr. Bennett divides his work into seven chapters. In the 1st, he describes the general characters and varieties of acute hydrocephalus, the progress and the order of its symptoms. Here he distinguishes a gradual and an insidious, a frankly inflammatory or febrile, and a secondary or consecutive form of the disease. Under this head hs also discusses what has been called hydrocephaloid disease, but which Dr. Bennett designates not inappropriately as pseudo-hydrocephalus, an important form of malady with which all who have practised among the poor children of the metropolis must be perfectly familiar.

In his 2d chapter, our author gives the statistics of acute hydrocephalus, and here finds opportunity to pay a well-merited tribute to the labours of Mr. Farr in the Registrar-General's department — Mr. Farr, who is an honour to our profession, and who has made Europe his debtor for the science and method he has displayed in all that has been committed to his charge in one of the most important branches of politico-economical science now cultivated. From Mr. Farr's tables, it appears that of 566,394 deaths from ascertained causes which occurred in the course of 1838 and 1839, 15421 were from hydrocephalus, which is at the rate of 1 in 37·384 of the mortality; and if the mortality among young subjects from hydrocephalus be contrasted with the mortality from other known formidable diseases of early life, such as measles, hooping-cough, scarlet-fever, &c., it will be found that it is on an average of years equal to almost any of them; probably, were all the cases that might be truly referred to hydrocephalus strictly reckoned, it would be discovered to be the most fatal of all the diseases of infancy. The most prominent feature in any fatal disease is very commonly assumed as a means of designating it; and as convulsions are extremely frequent in hydrocephalus, and we find that in the year 1839, 2911 children are set down as having died of convulsions, we are quite sure that a certain proportion of these convulsive cases were genuine hydrocephalus. Were we to add one-fourth of the fatal convulsive cases to those happening from cephalitis and hydrocephalus, we should have 2005 deaths from this peculiar affection of the brain, which is 583 more than the 1422 deaths which occurred from measles—the disease most

fatal to infancy in the course of that year. This is enough to show the very formidable nature of hydrocephalus, and the great mortality that accrues from it. The influences of season and of sex are next inquired into. Dr. Bennett is of opinion that meteorological peculiarities have considerable influence in inducing the disease. He has seldom observed that cases of hydrocephalus occurred singly. We can add our own testimony, from very ample observation, to the same point. We have, at one of our metropolitan charities, sometimes seen nothing of the disease for several weeks, and then we have had five and six cases under our care at the same time. The disease would even appear occasionally to assume an epidemical form. The disease is probably of equal frequency in the two sexes. The age at which it occurs most commonly appears to be from the fifth to the seventh year; under the seventh year it is much more common than at any other period of life—of 155 cases, 99 were in subjects under seven years of age.

In his 3d chapter, Dr. Bennett discusses the morbid anatomy of acute hydrocephalus. Sometimes no morbid appearance is left beyond the presence of a little limpid water within the ventricles and under the arachnoid, and Dr. Bennett concludes that this serum is no evidence of inflammation. Another very frequent appearance is a certain softness of the general substance of the brain, or of its central white parts. There is considerable difference in the minds of practitioners as to the pathological import of this white softening; our author is indisposed to side with those who see nothing in organic changes save such as have been caused by inflammation; and inasmuch as the change in question is often conjoined with diseases of acknowledged debility, he cannot make up his mind to regard the soft state of the brain in hydrocephalus as necessarily indicative of pre-existing inflammation.

Dr. Bennett, however, admits with the majority of recent writers on hydrocephalus, that there is very frequently inflammation of the membranes, particularly of the base of the brain. Our own experience confirms Dr. Bennett in the accuracy of this conclusion, and in the stress he is disposed to lay on the granular appearance of the serous surfaces, in consequence of the deposition of lymph in the form of minute grains.

Dr. Bennett's 4th chapter is on the ætiology of hydrocephalus. It is easy to name certain causes which should predispose to hydrocephalus in early life; but it is still extremely difficult to imagine why these should operate so forcibly in single instances, only or in particular families, and not generally.

The 5th chapter is devoted to the consideration of the *pathogeny* of hydrocephalus. This is a new word for the *causa proxima* of a disease. Here we find Dr. Bennett's views in very precise terms, and in few words; his conclusions are:—"That vital changes in the brain, chiefly in the central white parts, of the character probably of tubercular degeneration, are the primary causes of the simple forms of hydrocephalus; and that softening, effusion into the ventricles, and meningitis, are all consequences of antecedent alterations of nutrition." These conclusions are qualified to a certain extent afterwards, but they are evidently those which have been forced upon the author by his own observation, and we think them so near the truth, that we shall not lessen their force by quoting farther from this section.

The 6th chapter is on Diagnosis, and the 7th on the important subject of Treatment.

In the truly acute inflammatory forms, Dr. Bennett advocates the abstraction of blood generally and locally, free purging, cold to the head, and all the other elements in the antiphlogistic plan. There can be no question of the propriety of this practice; and we can say as much for all the other particular instructions which our author gives both as to remedies and prophylactics. To quote all excellent that is said on these topics would be to quote Dr. Bennett's concluding chapter entire. This we shall not do, but beg to refer both our older and our younger readers to the work itself for a summary under the guidance of ample experience of everything that is known both of the nature and cure of the interesting disease of which it treats. In conclusion, we add that the work is carefully and even elegantly written; just as the work of a scholar and a physician ought

to be; and that in point of typography and paper it is unexceptionable; the printer has done his part almost as well as the author.

MEDICAL GAZETTE.

Friday, June 28, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE MEDICAL PROFESSION, AND THE ESTIMATION IN WHICH IT IS HELD BY THE PUBLIC.

We have the following letter from an esteemed correspondent, and adopt it as containing matter that must be interesting to a large body of our readers.

Mr. Editor,

Your leading article last week contained some remarks on the loss of public estimation which our profession has experienced of late years. I conceive that, independently of some instances to which you allude of individual misconduct or unworthiness in parties who ought to have set a very different example, the superabundance in the numbers of the profession, and the consequent excessive competition for the public preference, are sufficient to account for the diminished estimation in which the profession is held. The very fact of Boards of Guardians assembling all over the kingdom to scrutinize, to discuss, and to decide upon the amount of remuneration to be doled out for the services of professional men, has assimilated, in the vulgar minds which predominate at Boards of Guardians, the very humble remuneration which medical men are willing and eager to obtain, with the quality of service which they give in return:—"What you are so eager to give for almost nothing cannot be worth much." Such is the reasoning; such the conclusion. It appears that, in Marylebone parish, the managers of the poor have even repudiated the gratuitous services of the physicians and surgeons, on account of the expense of the drugs, and the extra allowances in diet which they have been in the habit of ordering for the patients. The Board would be better satisfied to have no medical attendant except the resident surgeon at the infirmary, who being dependent upon the Board for his own subsistence, would not be likely to make them feel the expense of too liberal an allowance of extras for the poor patients. Yet it is not many years since the late Dr. Hooper enjoyed a considerable salary as physician to the Marylebone Infirmary. What has given rise to this remarkable change in the public mind but the too eager competition of the too numerous profession?

In the same spirit which actuates the managers of the poor in Marylebone, a member of an agricultural Board of Guardians has proposed a reduction of the salary of the medical officers, supporting his proposal by saying, "there are plenty of medical men who will be glad to do the duty for any sum, however small; they get so much *learning and genius* from practising among the poor, that they are glad to do it for almost nothing."

I am not a Union surgeon, but I feel that it is a degradation to the profession, and to every member of it, to have its claims placed at the disposal of bodies of men of the stamp of those constituting the majority of Boards of Guardians.

I would suggest to the heads of the profession in London, who may have influence with the legislature, that the remuneration to be allotted to the medical officers of parishes should be settled by the Poor Law Commissioners, that the Boards of Guardians should be allowed to select the medical officers, that when once appointed the due and effectual performance of their duties should be strictly exacted from them, and that they should be liable to be dismissed, not by the Board of Guardians, but by the Commissioners, upon neglect of duty proved against them.

I am, Mr. Editor,
Your obedient servant,

June 22d, 1844.

Our friend certainly hits the nail on the head here. But for the competition among medical men, on the resignation of Dr. Hooper, the physician or phy-

sicians to the Marylebone Infirmary would still have been in the receipt of a respectable salary; we are credibly informed that some among the Board of Guardians, (not the Vestry, as we said in our former article) do not understand how any set of men should be found willing to work for nothing: "I cannot afford to give away my wares, or to spend my time in other people's service for nothing; how should these physicians and surgeons, if they have to live by their profession, be in a different condition from myself? depend upon it they have something out of this which the Board do not understand; indirectly if not directly you may be certain that we pay." And this is the unalterable persuasion, we are assured, of more than one respectable member of the Marylebone Board of Guardians. Marylebone is perhaps the wealthiest parish in the world, and ought to pay its medical officers for their necessary attendance upon the sick poor; just as no medical man ought to be found willing to undertake the responsible duty of attending the poor of a wealthy community without fair reward. We are certain, as we said before, that neither barrister nor solicitor could be found willing to transact the legal business of the parish without remuneration. There is a chaplain, we presume, attached to the Marylebone Workhouse and Infirmary: does he do his office for nothing? The poor die in the Marylebone Workhouse and Infirmary as they die everywhere: are not the dues upon the funeral service regularly paid from the parochial funds to the officiating clergyman?

We have one, and only one, consistent, independent friend in the profession. In the public service, and in circumstances which lay him open to numerous demands upon his time and professional attention, he steadily refuses all who have not a *right* to his services: all and sundry in the grade of "dependent," he refers to 'the respectable practitioner over the way,' whose house is conspicuously indicated by the red and blue bottles;" "relatives" and "friends" he recommends to "their attendants in ordinary," and if that does not satisfy, he immediately throws in Dr. Chambers or Sir Benjamin Brodie. And this gentleman is a thousand times more repectable, aye and respected too, than if he were at the beck and call of every Duke, Earl, Marquis and Lord, with whom his position brings him into contact.

THE RECTUM INFIRMARY AND ITS FOUNDER AGAIN!

"THE Infirmary for the Relief of Fistula and other Diseases of the Rectum" has changed its name: like a street that had become a scandal from the number of its temples dedicated to the rites of easy Venus, it has been re-baptised: like a rogue and a vagabond, whose old name had become too notorious, it has acquired an *alias*. "The Infirmary for the Relief of Fistula and other Diseases of the Rectum," *alias* "The Charter-House Square Infirmary"! We love the old denomination, however, and shall continue to use it; it was specific; there was no mistaking its purpose. "The Charter-House Square Infirmary" is a blind, a deception; it is a stalking-horse from behind which Mr. Frederick Salmon may shoot twelve other Englishwomen in addition to the twelve he has already dropped into the cesspool of the "Rectum Infirmary." We should have been pleased to have seen him sailing on under his old colours; his success would have continued to be a measure of the gullibility of the public, of its non-indisposition to be dragged through soil-pits, in comparison of which those on the premises of the respectable nightmen who reside beyond King's

Cross and Paddington are pellucid pools of living water. But Mr. Frederick Salmon has carried his point:—

CHARTER-HOUSE SQUARE INFIRMARY: TESTIMONIAL TO MR. FREDERICK SALMON.

"At a numerous and most influential meeting, convened in consequence of a special requisition, signed by two hundred and seventy of the Governors and Subscribers, addressed to the Right Hon. the Lord Mayor, President of this Charity, and held at the Hall of Commerce, on the 8th ultimo, Major General Sir James Law Lushington, G.C.B., Vice-President, in the Chair: it was moved by Thomas R. Moore, Esq. Surgeon, and seconded by Mr. Alderman Musgrove, Sheriff, and resolved unanimously—

"'That the Infirmary for the Relief of Fistula and other Diseases of the Rectum, established in Charter-House Square, having been in existence during a period of about Nine Years, has conferred an important and lasting benefit upon medical science and suffering humanity,'"

We deny the fact. The Infirmary for the Diseases of the Rectum we, for our part, esteem a libel upon medical science. Are the public aware of what happened to the daughter of one of the oldest and proudest of the noble families of England in the hands, we believe in the house, of one of these rectum doctors? She had a long and a thick bougie pushed through her bowel into the cavity of her abdomen, and died in due course—as soon, in short, as the symptoms excited by this barbarous usage had time to kill her. Who can this unhappy Thomas R. Moore, Esq. be, who thus lends his name to that which he at least *ought to know* is not the case? He is entitled a surgeon, and must be aware that medical science has gained nothing either from Mr. Frederick Salmon or his Infirmary; nor has suffering humanity derived aught that it would not better and more securely to itself have obtained at any one of our noble metropolitan hospitals, officered as they are by gentlemen of the highest character, most liberal professional attainments, and consummate skill. We, as one organ of the medical profession, as speaking with the voice of all that is respectable in it, utterly repudiate the connection here set up between medical science and the Infirmary for the Relief of Fistula and other Diseases of the Rectum: its very existence we look on as a foul blot on our escutcheon; and all such exhibitions as that which took place on the "8th ultimo" we regard as so many stabs at the honour and respectability of the profession of surgery. It is on this account, and, as we said before, because we feel the duty delegated to us of disclaiming all alliance between either medical science or true charity, and the Infirmary for Fistula, and other diseases of the Rectum, that we raise our voice again in this place to warn the public against quackery and imposition in any shape, and however countenanced.

"It was farther moved by Capt. Sir Edward Parry, R.N., seconded by the Rev. Dr. Vivian, and resolved unanimously—

"'That, with the view of recording the opinion entertained of the professional talents and private worth of Mr. Frederick Salmon, and of the services he has rendered to the suffering poor, it is proposed that a subscription be entered into, for the purpose of presenting Mr. Salmon with some testimonial, as a lasting token of their regard, confidence, and esteem.'"

Let the 270 requisitionists to the Lord Mayor address themselves privately to the respectable medical gentlemen who attend their wives and families, and ask them in candour what they as professional men think of Mr. Frederick Salmon and the Infirmary for Fistula and other diseases of the Rectum? And let them act upon the answers they receive. If the subscription to

the "Salmon Testimonial" after this amounts to as much as will buy the Founder of the Infirmary for Fistula and other diseases of the Rectum, a brass syringe, or even an old fashioned *vesica armata*—a clyster bag with pipe and items appertaining, which would be the most appropriate present imaginable, and testimony enough of the public estimation—we have no knowledge of the sentiments that actuate the medical profession.

It must surely have been with the rectum-doctors in view, in anticipation of the advent of some of these gentry, or their abettors, that Dante imagined the swamp of human ordure, in which he has plunged certain denizens of his Inferno, and the strange concert performed upon that orifice of the intestinal canal, which is the opposite of the oral aperture, with which the poet and his guide are accompanied on one part of their perilous journey. The poet, it is true, characterizes the *trumpeting* alluded to as "oscena musica," obscene music; but what could be so appropriate in connection with the arrival in hell of the wicked Founders and Governors of an "Infirmary for Fistula and other diseases of the Rectum," as a symphony upon the natural instrument indicated? Or might it not even be advantageously made use of in these upper regions? In the account of a dinner, solemnized some few months ago, in behalf of the funds of "the Infirmary," which we have before us, we observe that Mr. Hobbs sings a song "written for the occasion," to the tune, undoubtedly, of "Here's a health to the King, God bless him!" as appears from the last four lines, which are these:

> Our Founder length of years attend,
> May sorrow ne'er distress him;
> For he hath proved the sick man's friend;
> Here, here's his health—God bless him!

The next time Mr. Hobbs is required to sing this or any parallel song in Mr. Frederick Salmon's laudation, we seriously recommend him to contrive the accompaniment we have indicated; it would have a very fine effect, and could not fail to strike from its novelty. Among the 270 requisitionists, there could be no lack of variety of intonation—the lady governesses would of course be selected to supply the trebles, the Lord Mayor and Aldermen could not fail to make first-rate basses.

FUNCTIONS OF THE SPINAL NERVE—ACCESSORIUS WILLISII.

By M. Bernard.

As general conclusions from his long paper on this subject the author concludes:—

1st. That the spinal accessory cannot be referred to the same type as the spinal nerves at large. The pneumogastric and the spinal do not by any means stand in the same anatomical and physiological relation as the anterior and posterior roots of a spinal nerve.

2nd. The pneumogastric is a mixed nerve which presides over the motory and sensory phenomena of the three grand functions—respiration, circulation, and digestion.

3rd. Among these functions there is one, however, viz. respiration, which participates in the life of volition or relation. This function, therefore, has an additional nerve—the spinal.

4th. The spinal nerve is, therefore, a motor nerve which presides solely over the motions of the larynx and thorax, so often as these parts are employed in phonation, or in any other act that passes the limits of simple respiration.

In other words, the spinal is a nerve of the life of relation appended to the respiratory system, in the same way as the acts over which it presides—the voice, &c. are phenomena annexed to the respiratory act.

The spinal cannot, therefore, be viewed as a respiratory nerve, as a nerve accessory to respiration; it may be said, in fact, always to come into play in opposition to respiration; it is the means by which the accomplishment of this organic function is temporarily prevented; if we would give it a name that should recal its function, it would be necessary to entitle it *antagonistic* or *antirespiratory nerve*.

The spinal with these uses forms an exceptional nerve in the animal economy; and this is not to be wondered at, seeing that it is attached to a function that is itself exceptional, inasmuch as the organs by

which it is accomplished, (larynx, thorax), are by turns within the domain of the life of relation and that of organic life. After the destruction of the spinal nerves, the respiratory apparatus sinks as it were to the level of the merely organic life; the animal become aphonic has no longer any more control over the motions of its larynx, or of its thorax, than it has over those of its heart or its stomach.—*Arch. Gén. de Médecine, Mai* 1844.

TREATMENT OF TYPHOID FEVER.

The results as to mortality in the hands of different practitioners have been very remarkable. At the Hôtel Dieu, for example, in the service of M. Sandras, the mortality was one in seven; the treatment consisted almost exclusively in the exhibition of small doses of Seidlitz water by way of purgative. At the hôpital Necker the deaths have been but one in twenty, and even one in thirty, if one patient be deducted who came to the house in a desperate condition. The treatment consisted in the employment of emeto-cathartics at the beginning, then purgatives (generally Seidlitz water), repeatedly to the end of the disease; finally, in the exhibition of mild tonics.—*Bulletin générale de Thérapeutique.*

INCONTINENCE OF URINE.

M. Chabrely recommends the use of the balsams in this troublesome affection. Here are a couple of his prescriptions:—

℞ Styrax balsam, 6 grammes; Peruvian balsam, 6 grammes; Honey, 90 grammes; Powder of gum arabic q. s. to make an electuary, of which a tea-spoonful is to be taken night and morning.

℞ Styrax balsam, 6 grammes; Balsam of Tolu, 8 grammes. M. and divide into pills of 30 centigrammes (5 grains), which are to be silvered over and rolled in lycipodium powder. From four to eight of the pills to be taken daily.

The patient is at the same time to make use of tar water by way of tisan.—*Bullet. Méd. de Bordeaux, in Gaz. des Hop.* No. 65.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Gentlemen admitted Members on Friday, June 21.—W. Gibson.—R. A. Jackson.—H. Deane.—E. Deane.—E. Tegart.—J. T. Perintau.—J. R. M. Lewis.—J. Hughes.—G. L. Shine.

APOTHECARIES' HALL.

Gentlemen who have obtained certificates, June 20.—W. B. Young, Reading, Berkshire.—W. N. Walker, London.—A. Eccles, Plymouth.—J. E. Huxley.—T. S. Butler, Brentwood, Essex.—W. Watson, Lutterworth, Lincolnshire.—W. W. Kemp, Wakefield.

BOOKS RECEIVED.

A Practical Treatise on Midwifery. By M. Chailly. Translated from the French and edited by Gunning S. Bedford, A.M. M.D. &c. New York.

Miscellaneous Contributions to Pathology and Therapeutics; being a Series of Original and Practical Papers on Rickets, Hydrocephalus, Impotence and Sterility, Pulmonary Apoplexy, and Hæmoptysis, &c. &c. By James Richard Smyth, M.D.

First Lines for Chemists and Druggists preparing for Examination before the Board of the Pharmaceutical Society. By R. Steggall, M.D.

Chemistry, as exemplifying the Wisdom and Beneficence of God. By George Fownes, Ph. D.

On Calculous Concretions in the Horse, Ox, Sheep, and Dog, being the Substance of Two Essays read before the Veterinary Medical Association, by W. J. T. Morton, V.S. &c.

MORTALITY OF THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, June 15.

Dropsy, Cancer, Diseases of Uncertain Seat	89
Diseases of the Brain, Nerves, and Senses..	136
Diseases of Lungs and Organs of Respiration	247
Diseases of the Heart and Blood-vessels	27
Diseases of Stomach, Organs of Digestion, &c.	65
Diseases of the Kidneys, &c.....	5
Childbed.....	6
Paramenia.....	0
Ovarian Dropsy	0
Disease of Uterus, &c.	3
Arthritis.....	0
Rheumatism	0
Diseases of Joints, &c.	8
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.	0
Old Age or Natural Decay.....	50
Deaths by Violence, Privation, &c.....	20
Small Pox	47
Measles	13
Scarlatina	62
Hooping Cough	20
Croup	6
Thrush	4
Diarrhœa	9
Dysentery	0
Cholera	1
Influenza.....	1
Ague.....	0
Remittent Fever	0
Typhus	27
Erysipelas	3
Syphilis	1
Hydrophobia.....	0
Causes not specified	2
Deaths from all Causes	855

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ON THE CAUSES OF EPIDEMIC FEVER* (AFTER DR. ALISON).

By an Editor.

No man in this country has distinguished himself for enlightened humanity more than the Professor of Medicine in the University of Edinburgh. Since he entered upon life he has not only been at the command of the sick and destitute of his native city in the important matters of personal attendance and purse, but he has been their untiring advocate with the wealthier public and the legislature. He has been foremost in every movement that had their present relief or prospective benefit for its aim. His philanthropy has ever been of the purest kind, and it has still gone hand in hand with economic as well as medical science of the highest order. No wonder that a man so gifted in heart and head should be loved and venerated among his townsmen — that his visits in the abodes of sickness and misery should be hailed as special interpositions of providence to succour and to save! May the new words of charity and wisdom which he has just committed to the press find a response in every gentle mind, and arouse each willing and able intellect to set vigorously to work to find a remedy for the wide spread, and still spreading, evil he lays bare! It is that we may aid Dr. Alison in the sacred cause he has undertaken that we here raise our voice in his behalf, and earnestly beg of our readers to accompany us through these few pages.

We have ourself some experience of disease among the very poor; but they were the very poor of London; and all who read Dr. Alison's pamphlet, with such experience, will understand the immense difference of meaning that must be attached to the term *very poor*, as it is applied to the most destitute classes of the metropolis, and to the same classes of Edinburgh, Glasgow, and the other larger towns of Scotland. Great as the amount of wretchedness we have been accustomed to witness here, it appears to be absolute affluence in comparison of that which is met with in Scotland. And then we are almost without any idea, in the metropolis, of those formidable febrile epidemics, that seem rather to deserve the name of endemics in reference to the Scottish cities, so constantly do they prevail. If they assume an epidemic character from time to time, it is only because the fire, which has never ceased to smoulder, bursts forth into a blaze that attracts particular attention—the spark which gave it birth had never died.

Of course there is a cause for every physical phenomenon that presents itself. Ague, which was for ages indigenous to England has well nigh disappeared from her soil; we have drained our meadows and our marshes, and so have got rid of its cause. A worse evil has supplanted this old endemical worm; it is *continued fever*, the offspring of destitution, the child, in its turn, of inadequate employment for the population of the country. Dr. Alison makes out this fact clearly, irrefragably, almost with timidity, and fearful that he is going beyond his province of physician, as it seems; but he expresses his conviction of the matter quite decidedly, and quotes facts in support of it that leave no room for doubt. We have, in fact, been too long misled in our inquiries into the nature of fever, and the causes of its production, by hypothetical notions, and the invocation of specific agents, under the titles of malaria and miasm, adequate, as it was believed, to produce certain states of the nervous and circulating systems, to be followed by the

* On the Epidemic Fever of 1843, in Scotland, and its Connection with the Destitute Condition of the Poor. By W. P. Alison, M.D. Professor of the Practice of Medicine in the University of Edinburgh, &c. &c. 8vo. Edinburgh, 1844. pp. 80.

peculiar derangement we designate fever. In looking too far afield for the cause of the evil, we have overlooked it altogether. This pamphlet of Dr. Alison we therefore look upon as a valuable contribution to pathology, though that is not its object. *Destitution*, in other words insufficiency in regard to food, to clothing, and to lodging, is the cause of the fever that has lately ravaged, that still continues to ravage Edinburgh, Greenock, Dundee, and the other manufacturing and trading towns of Scotland. This, medically considered, is a much more satisfactory and intelligible cause than miasm or malaria; economically speaking we fear that it will be much less favourably entertained. When we had to fight against so mysterious a foe as malaria, both medical man and overseer of the poor had a ready excuse for the repeated defeats and disasters they sustained; no one knew precisely how or where to have the enemy; but when he is presented to us hollow-eyed and gaunt-visaged, and we are told that his name is *Want*, we are left no resource save to open our hearts and our hands, and to bid the monster begone.

Epidemic fever is little and rarely known in England. It ravages Scotland as it seems almost incessantly, and Ireland periodically. There can be no question as to the cause which lies at the bottom of this remarkable difference. In England there is ample provision for the destitute poor, who never fall into that prostrate condition of body which makes man obnoxious to all the causes of disease in general, of fever in particular. In Scotland there may literally be said to be no provision whatsoever for the poor, who consequently the moment their own industry fails them, fall at once into absolute want of the merest necessaries of existence.

The Scotch abroad are known to be a liberal and an open-hearted people; intelligent, untiringly industrious, if they but live they are necessarily successful in the world, —they have enough for themselves, and something to spare for their poorer or less fortunate neighbours; no men in the world are more generous than the Scottish East Indians. In their own country, however, their energies are cramped, their powers of making money are restricted, and they are in the same proportion hard and unsympathising—they seem, as a people, to have no bowels of compassion for their poor neighbour. How else can we account for the fact that the Scotchman, domiciled in Scotland has always shown himself insuperably opposed to a legalized provision for the poor?

Dr. Alison, then, evidently feels himself upon delicate ground in urging destitution as the main cause of the endemical fever of Edinburgh, Glasgow, &c. He says, "I have on different occasions adduced evidence to prove—not that destitution is an adequate cause for the *generation* of fever, nor that it is the *sole* cause of its *extension*—but that it is *one* cause of the diffusion of fever." We have no fear of the patrons of the University, or of the Town-Council, or of the Lairdocracy of the "Guid Town" before our eyes, and help Dr. Alison onwards in what we believe to be the right course, by boldly asserting that without the destitution which has long been ascending to Heaven in accents of damnation against the rich in land and in capital of Scotland, there would be no such thing as epidemic fever known. The whole of Dr. Alison's facts and statements give us assurance of this truth. Dr. Alison says well and truly, "Where destitution exists, it prepares victims for fever, but it 'bides its time.' It springs," he proceeds, "from a specific contagion." We will grant that it does, but we add, that whatever grievously assails to depress the powers of life also engenders the disease; fatigue, cold, a wet skin, care and anxiety, confinement, bad air, and last and most effectual of all, *destitution, hunger, the body living on itself*, having nothing to spare. But destitution, hunger, the body living on itself, are synonymous terms, and identical with derangement of function, that is, with disease, call it by what name you will: we call it fever.

Disease follows famine as the shadow follows the substance; this is acknowledged on all hands. Look at the following facts, and learn that fever is the disease that in Scotland follows destitution :—

	No. of Men employed by Cbarity Fund.	No. of Fever Patients admitted.	Average for same month, 1837-38-39
End of February, 1840,	933	74	90
,, March, ,,	556	83	93
,, April, ,,	320	96	77
,, May, ,,	119	I33	87
,, June, ,,	35	161	79
,, July, ,,	25	251	70
,, August, ,,	0	392	75

And during almost the whole of August, there were nearly 300, and by the middle of September, above 400 patients, in fever in the Infirmary and Fever Hospital, and from 30 to 50 daily applicants, who could not be accommodated. On the 5th October, these numbers had increased to 460, accommodated in the hospitals, and 84 applicants who could not be so accommodated.

In February, when there were 933 men employed, there are but 74 patients affected with fever admitted into the hospitals, the average number of cases in former epidemic visitations for the same month having been 90; in August, the benevolent fund is exhausted, no one can now be employed, and the number of wretches in fever is 392! Nor is the evil yet at its height; during the whole of the month of August there are about 300, and by the middle of September 400 patients in fever in the Infirmary and Fever Hospital; and from 30 to 50 daily applicants who cannot be accommodated! Reverting to the causes of this dreadful epidemic, Dr. Alison says he thinks we have unequivocal evidence to show that it is neither due to the air of certain localities inhabited by destitute people, nor to the effluvia of putrescent vegetable and animal substances. He asks, very pertinently, what imposes on those persons who successively fall down in fever, the necessity of living in polluted air? It is "their poverty and not their will consents." All the world knows that the houses in Edinburgh are generally very high; they consist of many, often of six, eight, and ten superimposed stories. There can be no question as to the part of such houses where means of ventilation are most available—it is in the upper parts; but then the poverty of the occupants increases with the relative height at which they live, and poverty intervening, the freer air they either do in fact, or might readily, breathe, goes for nothing. Thus of 47 inhabitants in the two highest flats of a certain tenement, 37 took fever, and 10 escaped; while of 50 inhabitants in the three lower flats only 5 took fever, and 45 escaped. Let medical men abandon the phantom of miasm, and even of contagion, after this, nor seek to escape the sole practical and true, and useful conclusion, to the effect, that destitution and the circumstances it engenders are the cause of the epidemic fever from which the cities of Scotland have suffered so long and so severely. We urge this point the more earnestly, because there is a disposition in the mind of many influential and wealthy persons to escape or overlook it. Malaria, decaying animal and vegetable matters, imperfect sewerage, scanty supplies of water—anything but a scanty supply of food, or of employment, plenty of which is all that industrious Englishmen or Scotchmen or Irishmen require to find themselves in abundance of the necessaries of life, and to get beyond the reach of the influences that engender epidemic fever. "There are few places better supplied with water than Glasgow," says Dr. Perry, in his Facts and Observations, "and I have observed on more than one occasion that the progress of malignant fever was rapid and violent during *intense frost*, when the whole liquid substances in the streets were firmly bound together for weeks without the possibility of putrefaction going on." We urge the point of destitution as the grand cause of epidemic fever, we say, from the indisposition which we believe we have recognized in the minds of certain influential individuals to admit it. The people themselves almost universally ascribe their attacks of fever to the privations they have endured. Whilst the unemployed and destitute poor form a small minority, probably not more than 1-20th of the inhabitants of Edinburgh, they nevertheless furnish a very large majority of all the fever cases encountered—usually from three-fifths to two-thirds. In Glasgow it is the same; so it is in Ayr; so everywhere. For instance of 197 patients received into the Glasgow Infirmary, 85 were only partially employed; their earnings were insufficient for their support; and 43 were wholly unemployed, making the total number of destitute 128, against no more than 69 who were attacked with the disease when in full work; and it is quite certain that among these many had undergone unheard-of privations previously to getting into the work, which was probably the immediate exciting cause of their disease: how can the body, taken from starvation, be suddenly compelled upon a course of active exertion, without detriment? It would be necessary to begin by feeding these poor people for a week or ten days before requiring exertion of their emaciated bodies and shrunken veins.

The recent epidemic fever would not appear to have been very fatal in proportion to the numbers it attacked; still, when these numbers are regarded, the total of the victims is found to be very considerable. The fever of 1837 was admitted to have been extremely destructive in Glasgow: it appears that in the course of four months, during the height of that epidemic, there were 972 burials from the Infirmary and Town's Hospital at the public expense; but in the epidemic of 1843, during the four months, January, February, March, and April, there were 848 funerals from the same establishments at the common cost; and how greatly this number exceeds the general average will be seen by comparing it with the number (352) buried during the same months in the preceding year. The number buried at the public charge in 1842 being taken as 1, the number so buried in 1843 will appear to be 2·40—nearly one and a half greater than in the preceding year. But if it be now considered that the deaths from fever amount to about 15 per cent. of the whole mortality, an estimate may be formed of the whole amount of its destructive influence. Nor is

this all; death is not the only evil; one-half of a whole community prostrated by sickness were still a sore calamity! did no one die. The man who is sick is not only incompetent to minister to his own and his family's wants, but he immediately becomes a charge upon others, and hinders them from using their industry profitably—*non est vivere, sed valere, vita.* Now the epidemic of 1843 had a very large proportion of helpless sick for its absolute mortality, different in this respect from other epidemics, though scarcely less disastrous on that account. Nevertheless, see what Dr. Alison says of its destructive power in a single sentence:—

"In three widows' families whom I pointed out to the Royal Commissioners last spring as receiving very inadequate allowances, there have been, since that time, the very unusual number of *five deaths out of eleven children, by fever.*" Good God! and this happens in one of the divisions of a country rich beyond all the powers of computation, a country which raises thousands annually to convert the heathen, which sends missions to Otaheite and Pekin, and leaves its own little ones to perish for want of bread! Would the reader on this side the Tweed like to know what the allowance to one of these poor widows was? "A woman of delicate habit, who struggled through last winter with three young children on the usual pension allowed by the West Church parish, *fourpence a week for each child*, and *nothing* for herself." Think of the poor widow and her three children struggling through a winter on the munificent sum of one shilling per week! There are seven days in the week, and twelve pence in a shilling, and four human beings are ruthlessly left to starve on the sum of twelve pence in seven days, which is at the rate of 6·857 farthings per diem for the family, or 1·714 farthing for each individual; and this in a country where bread costs 2d. and meat costs 6d. a pound! Dr. Alison recommended this poor woman for an increased allowance, "but the application was, *as usual*, refused" (p. 15). But see what happened: the epidemic fever appeared; the poor woman herself was the first who took the disease, and two of her children were the first victims. The fever spread, and above sixty inhabitants of the stair in which she and her children dwelt became affected, and eight died. Nor was this all; the fever extended from this tenement to the opposite side of the street, where it committed still greater ravages. One shilling a week might, under certain circumstances, help a poor woman to a far greater extent than those who are accustomed to reckon their income by hundreds or thousands of pounds might imagine; but at the time the allowance of one shilling per week was made to the widow with her three children there was no work to be had—nothing could be done by which the amount could be increased; what money was obtained over and above the one shilling must have been obtained from casual charity; the poor woman had to descend from her respectability and become a beggar, in order to keep herself and her children from dying of hunger! Did these cruel men who, *as usual*, refused Dr. Alison's petition in the poor woman's behalf, breakfast, dine, and sup upon that day themselves? Did they lie soft and warm at night, and, hearing the wind blow, and the rain patter against their casements, did they hug themselves on their creature-comforts, and thank God for having made them overseers of the West Church parish, and not petitioners before the body for an increase upon an allowance at the rate of 1 farthing and 714 decimal parts of a farthing per diem for subsistence? We trust they did the latter of these acts at all events.

But in Scotland, in Edinburgh especially, the only legal notice taken of all the misery consists in the frequent imprisonment of those who endeavour to procure relief from their sufferings by "the nuisance of street-begging." Our readers will probably remember the instructions issued from the Home-Office to our policemen and constables of the metropolis, not so very long ago, when destitution through want of work was very rife among us, viz. "not to be particularly strict in taking notice of street-beggars." Of course, when the community were starving, it did not answer to put every man, woman, and child who proclaimed the fact by asking alms in the street into prison; for several months last year our prisons would not have held a tithe of the offenders, had the laws against street-begging been strictly enforced; and this in a city where there is ample provision for the poor; where, as the rule, street-beggars are all but invariably persons on the tramp, persons driven from their own homes in the country by the pressure of want, or persons who have obtained a kind of prescriptive right to violate the law, and who make a trade of begging.

Dr. Alison boldly attacks the question as to the causes of destitution. He maintains that the unfortunate condition of the poor of the northern metropolis is by no means generally referable to misconduct of any kind, neither to folly, nor vice, nor intemperance. Besides his own excellent testimony on this matter, which suffices us, he quotes Mr. Johnson, chairman of the committee of the last subscription, who says:—

"During the last five months, I have had

the best means of ascertaining the amount of poverty and destitution amongst the industrious poor of this city; their privations from want of food, clothing, and household furniture, greatly exceed the belief of those who have not the same means of knowing them.

"I have known many instances of *sober and industrious* tradesmen, of all kinds, who, after having sold or pawned every article within their dwellings (their fire-grate not excepted), were driven at last to apply to the committee for a scanty supply of bread or meal to appease the cravings of hunger, many of them urging the plea (which their emaciated appearance too truly confirmed), that for eighteen, twenty-four, or twenty-eight hours, they had not tasted food!

"On all occasions I have found the men most grateful for the smallest pittance, willing to undertake any kind of labour at any price the committee might please to give, and always more thankful for bread and meal, or for money in return for labour, than when given them by way of alms. Their conduct has at all times been characterized by the utmost respect for those interested in their welfare; they were easily reasoned with and guided; and in every instance they frankly and freely communicated their present and past history, which, with very few exceptions, among the thousands of cases tested by the committee, have always proved correct.

"I never knew the bounty of the committee abused by the exchange of rations for spirits, nor that amongst the generality of the unemployed there existed a great anxiety for intoxicating drinks." . . . . . "The cry that drink is the sole cause of distress comes only from those who wish some kind of excuse for withholding their means; it could never come from those who have taken the trouble to investigate its causes."

The truth lies in small compass; it is announced in these few words: "want of work." And is it not one of the saddest among the many sad spectacles we encounter in this world to behold an able-bodied industriously disposed man craving occupation in vain? This was one of the features of human society that appears to have imprinted itself harshly on the mind of Burns, whose writings, like those of Shakspeare, are transcripts of human sympathies, and affections, and feelings:—

> "See yonder poor o'erlabour'd wight,
> So abject, mean, and vile,
> Who begs a brother of the earth
> To give him leave to toil;
> And see his lordly fellow-worm
> The poor petition spurn,
> Unmindful though a weeping wife
> And helpless offspring mourn."

The people are willing to work, but there is nothing for them to do. There can be no question, however, in regard to the natural law in reference to such circumstances: every man born into a community has a claim to a subsistence from it; if there be bread in the land he must have his share; he cannot be left to starve. And accordingly, in all the most highly civilized societies in Europe, this right has been recognized; in England, Holland, Flanders, and over the whole of Germany, and, we believe, the North of Europe, *all who are ascertained to be truly destitute have a right to relief.* Truly civilized society can stop at nothing short of this. Yet it is obstinately refused, as we have said, in Scotland; so obstinately, that there is probably nothing for it but the interference of the English portion of the legislature, which must kindly step in, and save Scotland from the sin and crime she is apparently bent on persevering in. To this the legislature ought to be the more disposed, seeing that our friends in the North actually gain nothing by their hard-heartedness. The periodical aggravations of the distress that constantly exists in Edinburgh, and the larger towns of Scotland, have always to be met by the more fortunate members of the community; subscriptions have to be entered into in order that the poor may not actually die of starvation; and the amount of these subscriptions Dr. Alison shews to be fully equal to the sums raised in many of the districts of England in the way of regular assessment for the maintenance of their own poor and destitute. During the last three years the inhabitants of Edinburgh have actually subscribed voluntarily the very large sum of £20,000! but in vain; "all has been ineffectual in preventing an immense accumulation of destitution and misery, and disease consequent thereon." "It is even already obvious," says Dr. Alison in continuation, "that before the end of this year, farther subscriptions for the support of the unemployed poor will become necessary."

The large sum of money mentioned, however, is by no means the free will offering of the Edinburgh community at large, of all and sundry who have something to spare from their own necessary means of present subsistence; it is contributed by some 1200 out of the 150,000 inhabitants of the Scottish capital — the number of persons who subscribed £1 and upwards was no more than 1246! The extraordinary burthen therefore falls on that portion of the community which has already taxed itself most heavily for the support of ordinary charities. These persons, it is to be presumed, are the best able to bear this unusual

burthen; but they ought to be protected in their benevolence, just as the able-bodied, but unemployed, and therefore destitute, poor ought to be protected in their destitution. The cold and unsympathising ought not to feel themselves in a state to transfer their fair proportion of a necessary burthen from their own to their neighbours' shoulders.

The remedy for the lamentable state of things which he shews to exist in Edinburgh Dr. Alison proposes to find in—

1st. Averting "the sin, and scandal, and danger, of unrelieved destitution, by giving, as our neighbours in England, Holland, Flanders, and all over Germany do, a *right* to relief to all who are ascertained to be truly destitute, from whatever cause their destitution may have arisen. * * * I only add, that this concession of the right of relief naturally involves the *counter right* of inspection, by duly qualified and *responsible* agents, acting on a uniform system, and provided with the means of applying such tests of destitution, and enforcing such checks on fraud or laziness, or on the misapplication of charity, as experience has proved to be effectual.

"2d. We should provide, that the burden thus assumed by the community is laid equitably on its different members; which is to be done, as I apprehend that experience has also shewn, in two ways:—*first*, by the right to relief, in any individual case, being given in that part of the country which has benefitted the most by the labour of the applicant, or of his parents, or nearest connections; and, *secondly*, by the cost of that relief, which is necessary to avert destitution, being defrayed by means of a well-considered assessment."

That is to say, Dr. Alison would extend the provisions of the English poor law in its amended form to Scotland. And he shows by satisfactory statistical documents that this measure, whilst it would not cost the city of Edinburgh more than is now raised by voluntary contributions, would have the immense advantage of reaching all who ought by right, and from their position, to assist—it would be a goad to the lazy brute, and prove a means of sparing the willing horse. The present system of leaving the poor without any sustainable claim to relief, therefore, has nothing on the score of economy to recommend it. Neither has it aught on the side of morality to make its continuance desirable. "It is not," as Dr. Alison very justly observes, "the mere circumstance of being made a pauper, *i. e.* receiving parish relief, which destroys the independence of the recipient; but the circumstance of receiving *any* relief for which no equivalent is given in labour. He who 'of necessity must live by alms' has equally lost his independence, whether he is made a pauper, or is provided for under one form or another of mendicity."

To those who maintain that the sufferings of the destitute population serve as warnings to others, and answer the beneficial purpose of repressing the growth of a similar population, and therefore ought not to be interfered with, there is this very conclusive answer to be given—that far from having any such effect, experience demonstrates that *the destitute poor unprotected by law multiply much more rapidly than paupers.* In England, with her law which gives to all who are in want and have a settlement, a right to relief, one-fifth of the persons who attain to the marriageable age never marry, and the women, though nubile at seventeen, do not on an average marry till they have attained the age of upwards of twenty-four, nor the men till they have reached that of nearly twenty-five and a half years. But in the most destitute parts of Scotland and in Ireland, in neither of which countries is there any approach to a poor law like that of England, it is familiarly known that one half of all the marriages that are solemnized take place between young persons under the age of twenty-one.

Dr. Alison may be said merely to hint at emigration as a means of relief, and that only in reference to "certain districts hitherto grievously mismanaged." In this we think him right. It has always struck us, that of all the absurd schemes of lightening the burthens of a community, that which made emigration the means was the most absurd. We have long been accustomed to meet the advocates of emigration with the question, Whether a thinly peopled country was ever a rich one? What in fact were the value of the soil if it were not tilled or grazed? what the worth of raw materials without industrious hands to give them fashion? whence would the interest of capital come without profitable employment in the shape of productive labour? What were a country without inhabitants at all? Unfettered liberty to buy in the cheapest market, and to sell in the dearest, is all we ask, is all we require; it were the sufficient panacea for all our social evils, physical as well as moral; for the fevers that cut us down by hundreds, by thousands, and for the bonfires of the produce of our broad acres at which we have toiled through wet and through dry.—But we need not draw upon our own stores when we have such valuable materials as Dr. Alison supplies us withal for a conclusion.

"But if the institutions of this or any other country are such as practically to deny the comforts of life to any considerable part of the community, it must be expected that a generation will spring up, careless of those

comforts, and prodigal of life itself;—degraded in their habits, reckless in their conduct, over whose general mode of life even religious instruction will have little practical effect, because not supported and enforced (as expressly directed in Scripture) by the civilizing influence of human charity. Men brought up in this state of poverty and degradation will live on little, and work for little; they will recommend themselves, sooner or later, more than all other labourers, to that influential class of men, to whom the wages of labour must always appear as so much deduction from the profits of stock; and whose interest, to have labour always available, and at the cheapest possible rate, is opposed to, and ought to be checked by, the interest of the community at large, to have poverty and pauperism equitably distributed, and at the lowest possible amount. Gradually they will supplant all other labourers, or reduce them to a level with themselves; they will have, as all experience shews, the high mortality, and still higher reproductive powers, of the most destitute poor of civilized countries; and while they minister to the wealth of certain possessors of capital, they will overspread the whole country with misery and disease;—they will do for it, in fact, just what a long course of neglect of the poor has done for Ireland and for certain northern districts in Scotland, which have been priding themselves on avoiding assessments, *until the number and destitution of their poor have become such, that the argument which they now use against the legal provision is, that to make a decent provision for them would absorb the whole rents of the estates.*

"Such degradation of the habits of many poor families, the sure forerunner of a pernicious increase of their numbers, has been, even under my own observation, both a frequent cause and a frequent effect of epidemics of disease in Edinburgh; and to any one who observes and reflects upon its natural consequences, it must appear as a solemn warning, that the sacred injunction on all Christian nations, to "clothe the naked and to feed the hungry," is not to be trifled with, or explained away; that when one system is found ineffectual for this purpose, another should be tried; and that it is peculiarly incumbent on us, as a nation laying claim to a peculiarly Christian character, to use the faculties which Heaven has given us, to acquire the information, and apply the means, by which the sufferings of the poor, in such a complex state of society as that in which we live, are found to be most effectually and uniformly relieved."

June 6, 1844.

SKETCH OF THE MENINGITIS

WHICH APPEARED AT GIBRALTAR IN THE EARLY PART OF 1844.

By Dr. Gillkrest,
Deputy Inspector General of Army Hospitals.

(Communicated by Sir J. M'Grigor, Bart. Director General, Army Medical Department.)

To the Editor of the Medical Gazette.

Sir,

I herewith forward for your perusal a report on the disease "meningitis," which has been prevalent among the poorer classes of the civil population in Gibraltar for some time past.

This report appears to me to be worthy of insertion in the Medical Gazette.—I am, sir,

Your obedient servant,

J. M'Grigor.
Director General,
Army Medical Department.

June 6th, 1844.

During the first six months of 1843, the health of the population of Gibraltar was maintained in its ordinary state; but for several weeks before Christmas, catarrhs (deserving, perhaps, the name of influenza, so often applied in various parts of the world) prevailed, it may be said, epidemically; few individuals or families of any class having escaped attacks of the malady.

The epidemical catarrh having declined, cases of meningitis, possessing very marked symptoms, began to make their appearance about the middle of January; for the most part among young persons of the lower classes; and the disease has since continued to prevail to such an extent, that although the numbers do not warrant my applying the word "epidemic" to it, I still consider it a subject worthy of special notice.

It may be premised that in the course of what we consider here as our "rainy season," viz. from the beginning of October to the end of March, our supply of rain was unusually scanty; but it cannot be said that in other respects any peculiar atmospheric phenomena were observed. With respect to the drought, it can be stated, that when this has occurred in a similar manner in former years here, it has not been followed by a disease of a similar nature to that which I am now speaking of: so that, as in other instances, we are obliged

to refer the circumstance to certain mysterious atmospheric conditions of which nothing is known, and which must for ever, probably, remain beyond our ken.

Before the setting in, and during the progress of the strongly marked cases of meningitis, it was observed that, in indispositions from any cause, there was a tendency to headache more or less severe; the occiput being, oftener than usual, the seat of the pain; and the muscles of the back of the neck being also frequently affected with aching.

Lest the cases which occurred should only be the advanced guard of a wide-spreading epidemic, I thought it my duty to forward communications to Sir James M'Grigor, from time to time; and the following are to be considered as the substance of my statements upon the subject.

The invasion of the disease was in many instances sudden, while in others certain prodomes existed. In some the commencement of the attack was indicated merely by slight disturbance of the cerebral functions, with a little rigidity of the muscles at the back of the neck, and vomiting; these symptoms perhaps yielded to treatment in two or three days. In many, however, the headache, particularly frontal or occipital, but sometimes general, was most intense from the commencement of the attack; the head being thrown back, and so retained by the rigidity of the muscles, for perhaps several (in some many) days; extreme anxiety and restlessness, for the greater part of the time,—frequently with spasms, or convulsions, or both; pulse not always disturbed in a degree corresponding with the gravity of the other symptoms; injection of the adnatæ, with high febrile movement, only taking place in a very limited number; vomiting and costiveness, in the early period of the attack, have been among the most constant symptoms; and it has been observed, that after the vomiting had ceased for several days, during which the patients seemed likely to do well, this and the other acute symptoms have recurred, followed by a fatal termination. The absence of thirst throughout was among the most remarkable circumstances accompanying the attacks.

In violent attacks, where the symptoms have not yielded to active treatment, or where death has not supervened within a period varying from perhaps the second to the fifth or sixth day, the patients have usually passed into a state of extreme marasmus, in which they have, in some cases, remained for a long period of time,—and from which state, some, to our great surprise, have recovered; while others have ultimately died. These very violent attacks, it ought to be stated, were sometimes ushered in by a severe rigor.

The most striking and general symptom has been the greater or less curvature of the spine, caused by the rigidity of the muscles of the neck; the head in many of the cases was observed nearly to touch the shoulders. In adults, among whom attacks were comparatively few, this symptom existed only in a slight degree, while in some young persons the curvature amounted to opisthotonos.

Along with throwing back of the head, the following symptoms were not unfrequent—strabismus, partial or very perfect, deafness, and amaurotic blindness. In one child of about three years old, and in a state of extreme marasmus for many days, I witnessed all this group of symptoms assembled, and yet it was in its mother's arms, devouring, with avidity, whatever food was put into its mouth, and ultimately recovered.

In two cases, temporary hemplegia; in three or four, symptoms considered peculiar to apoplexy, and proving fatal, took place. In two, sudden recovery, from symptoms of a very alarming nature, was observed. Somnolency was frequent in the course of the disease. Pupils sometimes dilated, and sometimes contracted; while at other times they have been observed to oscillate. Countenance, in the advanced stage, has sometimes had an unmeaning or fatuous* appearance.

When speaking of the acute stage of very severe cases, it should have been mentioned that the severity of the pain was often indicated by shrieks.

One point, remarkable enough, was, that while, in children and young persons, the thrown back state of the head was a very common symptom, this was comparatively rare in persons more ad-

* The French word, *hébété*, perhaps conveys best what is here meant to be said respecting the expression of countenance.

vanced in life; though, in other respects, the symptoms may have been of the severest nature. It was uncommon to observe that the intellectual faculties remained unimpaired, in the chronic period, to within a short time before death.

Respecting the remedial means employed, there was no difference of opinion whatever; nor could there well be any, where the indications were so obvious. Bleeding, general and local, purgatives, and various derivatives, were mostly relied on; mercury was also employed as soon possible, from its well known property as an "antiplastic," in those diseases where lymph is known to be deposited.

From what I have observed, I quite agree with what has been said by some authors as to the great probability of mischief being caused by cupping, or the application of blisters, or other violent irritants, too near the seat of the inflammation: indeed, I think mischief likely to arise from their application to any part of the body, when the disease is at its height; and upon the same principle, I should hesitate in recommending the application of many leeches near the head under the circumstances mentioned, and especially in young persons, in whom leech-bites often create great irritation.

I agree with those who would prefer, in cases of meningitis, simple irrigation of the head, (the hair being cut close,) to the application of ice, so likely to produce reaction, and a great shock to the system.

Morbid appearances.—As the disease prevailed, with but few exceptions, among the civil population who had been treated in their own dwellings, the examinations were very limited; they were, however, carefully made, and perhaps sufficiently instructive, except in one not unimportant respect: I allude to our being unable to succeed in examining the head of a single case of a child, so as to have it in our power to establish how far, in them, the disease should be considered as the meningitis arising from the strumous granulations of the arachnoid and pia mater, much spoken of by French authors of late years, especially by Dr. Guersent, and respecting which further references will be hereafter made.

Our inspections established, as I believe is always found to be the case in the disease to which for some years past the term meningitis has been given, that the dura mater was perfectly free from all trace of inflammation.

The arachnoid, if not always opaline in its appearance at its superior portion, with a more or less manifest deposit of lymph underneath, had always the most unequivocal marks of the existence of inflammation at the base of the brain, where even pus (which in a few instances may be said to have been almost in a state of concrete) was usually found.

The pia mater, in the majority of the cases examined, was found remarkably implicated; even traces of pus in its foldings in the sulci of the brain have been observed, and lymph has been found deposited at various points of its spinal prolongation. Some authors seem to be of opinion that this membrane is specially the seat of inflammation in the disease for which the name of meningitis has of late years been adopted.

Though our examinations here have not shewn, in anything like a satisfactory manner, that the inflammation had extended to the substance of the brain, we can hardly conceive, from its close connection with the delicate and very vascular tissue of the pia mater, how this could well be otherwise; and the old name of phrenitis may not therefore, after all, be so inappropriate.

It is now well known how fallible are the rules (at one time so much relied upon) assigning one set of symptoms to certain lesions of the brain itself, and another set to those of its coverings.

The points where lymph or pus, or perhaps both, were found at the base of the brain and lower surface of the cerebellum, in our cases, varied greatly; the deposits on the pyramidal bodies and neighbourhood being perhaps the most remarkable.

The ventricles have, in a certain proportion of our examinations, been the seat of very remarkable appearances: in two cases the quantity of serum thrown out from the lining membrane was so great as to have led us easily to suppose how the term "acute hydrocephalus" may have often obtained in this disease. In these cases a considerable quantity of lymph and pus was found at the bottom of the ventricle, rendering the serum turbid.

Having paid much personal attention to all the phenomena of the above disease, as well as having been in constant communication with the civil practitioners who had most cases, I can confidently offer, as being faithful, the foregoing observations regarding this singular malady, which has prevailed here, through a variety of atmospheric changes, and several days of heavy rain, from about the early part of January to the 20th of May, 1844, on which day a severe case appeared, after an interval of many days without any.

Anxious to obtain all the information possible respecting the diseases to which the town and territory of Gibraltar was liable, I some years ago consulted all the records which it was possible for me to obtain, from the autumn of 1669, when a devastating yellow fever epidemic certainly appears to have prevailed. But the existence here of meningitis, or "phrenitis," in the remarkable manner referred to in the foregoing pages, is nowhere spoken of; the oldest inhabitants are not aware of anything of the kind; and, in the course of my knowledge of Gibraltar for many years, the disease has not occurred in a manner to attract any attention.

Not so, however, with regard to other places; for, as is shewn by Dr. Guersent, in a special and excellent memoir on meningitis, it appears to have prevailed, epidemically, according to various authorities, in different parts of Europe; and he includes among the number one described by Sauvages. He refers to one of very recent date (1839) which took place at Versailles, as described by Dr. Faure Villar, and in which, contrary to what occurred with us here, the military suffered severely; for of 114 attacked (chiefly young soldiers) in one Regiment, 41 died. There is no question of the identity of the symptoms, in our cases, with those described in that epidemic.

As, with us, the majority of the cases occurred between the ages of from 2 and 15 years, the statements regarding the "granular meningitis" written upon by several authors in modern times, and peculiar to young persons, seem to me to be worthy of being referred to. In England, Dr. Green is the last person who has written about it. I mentioned in a former page, my regret at not having been able to verify, by dissections, how far these morbid deposits, described as taking place in the arachnoid or pia mater of children, and furnishing a source of inflammation (as such strumous granulations in the peritoneum do) may or may not have been a fons mali in our cases; but we are prohibited from believing the affirmative from the number taken ill within a certain time (*many* within the same week) having been so great; and the dissections, in *adult subjects*, presented no such deposits.

The memoir of Dr. Guersent, physician to a very large hospital for sick children at Paris, is very interesting upon the form of meningitis having its origin in the tubercular granulations I am now speaking of; and he gives a summary of what has been said most worthy of notice by others; describes the liability of those granulations to remain a considerable time latent, and to cause, at first, a modified and chronic degree of inflammation, producing only symptoms of a very modified and obscure kind; until, arriving at a certain point, the explosion from the setting in of the acute inflammation demonstrates clearly the perilous nature of the disease. It has been attempted to draw distinctions between the acute stage of this form and the simple meningitis, but Dr. Guersent admits that where the violent symptoms set in in both, without antecedents in the one, it is almost impossible to make a distinction.

With regard to the number of cases which occurred within the period already specified, viz. from January to the 20th of May inclusive, a near approach can be made, though the exact nnmbers cannot be given, as two or three private practitioners, who have had a few cases, have not given in statements.

In our civil population (of about 16,000), 450 may be considered about the number of cases of all grades which occurred; about 190 of that number having had symptoms of more or less gravity; 42 deaths took place.

It was noticed during the period, that there was a very prevalent disposition to headaches among the population generally.

Among the military, though it was observed by some of the medical officers, that during the same period the head seemed to have been particularly affected, two men only died, and one child.

With but very few exceptions this disease prevailed among the indigent classes, and of these the indigent classes of the Portuguese nation (in considerable numbers here), and whose diet is very inferior, were those who were attacked in the greatest number.

The bulk of the cases occurred below the age of 18, and but a very few were attacked with this disease in a very severe form, beyond the age of 30.

In respect to sexes the attacks seemed to have prevailed pretty equally in both.

J. GILLKREST, M.D.
Deputy Inspector General of Army Hospitals.

CASES OF SPINA-BIFIDA: WITH REMARKS.

By PRESCOTT HEWETT, Esq.
Curator of St. George's Pathological Museum.

(ACCOMPANIED BY A SKETCH.)

(*For the London Medical Gazette.*)

CASE I.—M. A. Smith, a well-developed child, æt. five months, was admitted into St. George's Hospital, under the care of Mr. Tatum, for spina-bifida corresponding to the whole of the posterior sacral region. The tumor, of the size of a turkey's egg, was transparent, and the skin covering it was natural, except at the apex, where it was slightly discoloured. There was no paralysis of the inferior extremities; the stools and urine were discharged naturally. The child was also affected, but not to any great degree, with hydrocephalus.

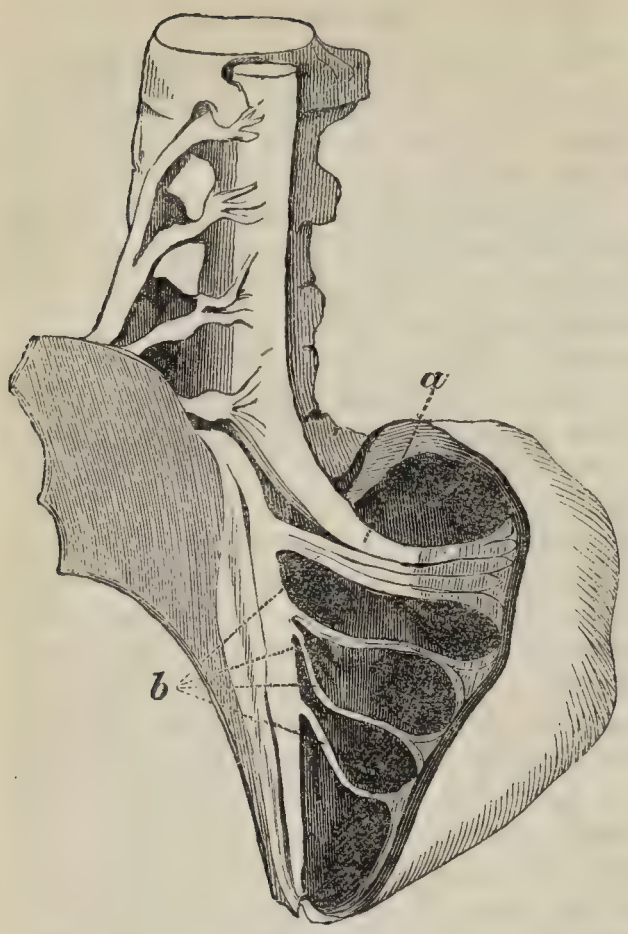
Mr. Tatum punctured the tumor with a grooved needle, and let out ℥ij. of transparent fluid; a pad and roller were afterwards applied, so as slightly to compress the tumor. The child did not appear to suffer any inconvenience from the operation, which was repeated in a few days: the head then became smaller. Convulsions subsequently came on, and continued, at different intervals, for several days; the head increased in size; the tumor inflamed; and its walls became somewhat thickened. The operation was, in a few days, repeated, and some blood-tinged fluid was let out. Three days afterwards the patient became very feverish and partially comatose, and an eruption, which turned out to be measles, made its appearance on the body. The child died a few days afterwards.

Sectio cadaveris.

The head presented the appearances commonly observed in hydrocephalic cases; the fluid was in the ventricles of the brain.

The tumor occupied the whole of the posterior surface of the sacrum, all the laminæ and spinous processes of the sacral vertebræ being completely deficient. The walls of the tumor were thickened, and the skin was in some parts coriaceous; with this exception, there did not appear to be any well-marked traces of inflammation either about the chord or its membranes. The cavity of the tumor was intersected by the extremity of the chord and the nerves emanating from it. The chord and its nerves, passing out of the spinal canal at the upper part of the opening, ran across the cavity of the tumor to its posterior wall, where they were firmly fixed, the nerves being here flattened and spread out upon a fine membrane. From the sac, the anterior branches of the four first sacral nerves returned in distinct bundles, forming large loops, to their anterior sacral foramina, through which they passed, as usual, to form the sacral plexuses. The extremity of the chord, and the bundle of filaments forming the anterior branch of the first sacral nerve, were, towards the sac, so closely united, that they could not be separated; but towards the sacrum they were about the distance of a line from each other; the two lower anterior sacral nerves did not pass through the cavity of the sac; all the posterior sacral nerves were lost in the coverings of the tumor. The fluid had evidently been effused between the visceral arachnoid and the pia-mater; the serous membrane was widely separated from the spinal marrow and its nerves in the whole length of the canal; but at the opening communicating with the sac the visceral arachnoid had been forced outwards, and was traced to the neck of the sac, where it became so intimately connected with the parietal arachnoid that it could not be separated from it. The walls of the sac were thus formed by the two layers of the arachnoid, by the dura mater, and skin, all of which were much thickened and firmly united to each other.

The connexion of the chord and nerves with the sac is figured in the annexed sketch.



Case II.—In 1843, I was asked to see a child, æt. 8 months, who was affected with spina-bifida. The tumor, of the size of a large egg, was situated in the lumbar region; the skin was natural, except at the apex, where it presented the appearance of a fine transparent membrane, with some large vessels minutely injected; there was no paralysis of the inferior extremities; the bladder and rectum were not affected. The head had increased very much latterly, and evidently contained a large quantity of fluid.

No surgical treatment beyond that of slightly supporting the tumor by means of a bandage was adopted.

The disease went on gradually increasing; the skin became inflamed, and burst at the centre of the tumor; extensive suppuration of the sac ensued, and the child died.

The parents would consent to the examination of the tumor only.

The aperture communicating with the spinal canal was caused by the deficiency of the right laminæ of the middle lumbar vertebræ; the left laminæ and the spinous processes being well developed. Some filaments belonging to the posterior spinal nerves ran across the cavity of the sac to its posterior wall, in the coverings of which they were lost. The sac was somewhat thickened at its neck, and its internal membrane presented evident traces of inflammation.

Case III.—Spina-bifida in a lad, æt. 17.—In March, 1844, I saw this case with Dr. Page. The tumor, which had increased with the growth of the lad, was then of the size of an adult's head. It occupied the whole of the posterior sacral region, and had a very broad basis; the skin covering it presented its natural appearance, but the tumor was, throughout its whole extent, quite transparent. The boy, who was apparently of a weakly habit, had lately had a very severe attack of influenza, which had left him in a very debilitated state. He had perfect command over his inferior extremities, and, some little time before his illness, he had walked four miles without any fatigue. He complained of a burning sensation running down the back part of both thighs to the soles of the feet whenever the tumor was struck. From his birth he had never been able to retain his water, which constantly dribbled away; and he had but very slight command over the sphincter ani. He had no pain in his head, which was well formed, and of the average size: his intellect appeared to be well developed. Pressure upon the tumor had no effect either on the brain or on the tumor itself.

The parents of the lad, who discovered the tumor shortly after his birth, were advised by a surgeon whom they consulted not to allow the tumor to be meddled with, as the child was in good health, and did not appear to suffer any inconvenience from it. The boy was brought up with the other children, but had not for some time past entered into their games, for fear of the tumor being injured.

Case IV.—Spina-bifida in a young woman, æt. 25.—In March, 1844, I was asked by Mr. Walshe to see this case with him. The patient was delicate-looking, but appeared to enjoy excellent health. The tumor, of the size of a child's head, had for the last few years remained quite stationary; it occupied the middle part of the posterior sacral region. The sac containing the fluid was very firm and thick; the skin which covered it was thickened and coriaceous, and, at the most prominent part of the tumor, presented an excoriation, of the size of a shilling,

with hard, elevated edges: on another part of the tumor was a large, warty growth, presenting the appearance of the warty growths sometimes met with in cicatrices. The basis of the tumor was broad, and appeared, at one part, to be surrounded by a thick elevated ridge. The inferior extremities were not in the slightest degree affected, and no inconvenience was felt when the tumor was either struck or firmly pressed upon. When sitting, she was not able to retain her water, but she was not thus inconvenienced when walking; the sphincter ani did not appear to be affected; her bowels were generally costive. She was a hard-working woman, and had always enjoyed very good health. The tumor, to which she had now become accustomed, caused her but little inconvenience.

When the tumor was first discovered, it was very small, and entirely disappeared under pressure. She was ordered, by Sir William Blizzard, to whom her parents took her, to wear a bandage which slightly compressed the tumor; for some time she continued to wear the bandage, but she had, for some years past, abandoned all treatment, as the tumor no longer increased in size.

Remarks.—Spina-bifida may, it is well known, be found in any part, either at the anterior or posterior surface, of the vertebro-sacral column; but its common situation is at the posterior part of the lumbo-sacral region.

The existence of this disease is generally explained by an arrest in the development of the osseous tissue, which, M. Cruveilhier thinks, is, in some cases, the consequence of adhesions having taken place between the integuments and the coverings of the spinal chord, before the cartilaginous tissue of the laminæ was formed; by these adhesions the chord is kept out of the canal, and consequently prevents the formation of the laminæ in the corresponding region.

The connexion which generally exists between the chord, or the nerves, and the walls of the sac, is a point of the utmost importance.

Some cases are related, by various authors, in which neither the chord nor the nerves had any connexion with the sac; these parts followed their usual course down the spinal canal; but, in by far the greater number of cases that have been placed upon record, the nerves presented some kind of connexion with the sac. Of *twenty* preparations of spina-bifida, occupying the lumbo-sacral region, which I have examined in various collections, I have found but *one* in which the nerves were not connected with the sac.

With regard to this connexion of the nerves with the sac, it appears that the two following general rules may be laid down. 1st, if the tumor corresponds to the two or three upper lumbar vertebræ *only*, the chord itself very rarely deviates from its course, and the posterior spinal nerves are generally the only branches which have any connexion with the sac. 2d, if the tumor occupies partly the lumbar, and partly the sacral region, then, *generally, the chord itself*, and its nerves, will be found intimately connected with the sac. M. Cruveilhier believes, from his dissections, that this connexion is *constant*.

Various reasons have been assigned for this connexion of the chord with a tumor lying over the sacrum, and Morgagni enters into a long discussion about this point; but, for his suggestions, I must refer to his work, "De sed. et caus. Morb., Ep. xii." The true explanation is, that, in these cases, the disease takes place during the first months of fœtal life, when the chord is situated in the sacral canal.

For a detailed account of the various ways in which both the chord and the nerves have been found connected with the sac, I must refer to Mr. Stafford's Treatise on the Spine.

In by far the greater number of cases the fluid is found in the *sub-arachnoid* cellular tissue, the visceral arachnoid being more or less extensively stripped off from the chord and its nerves; in a few cases only, the fluid is effused into the *cavity* of the *arachnoid*. This difference in the situation of the fluid will, I think, serve to explain some of the varieties which have been observed as to the connexions of the chord, or the nerves, with the sac*.

1. If the fluid is effused into the cavity of the arachnoid *previous to the formation of any adhesions between the two*

* It must be borne in mind, that the disease, in a large proportion of cases, takes place at a very early period of fœtal life.

layers of that membrane, no nerves will, I think, be connected with the sac; for the fluid, thus effused, accumulating at that point where it meets with the least resistance, will project at the back part of the spine, which is deficient, and pushing against the bodies of the vertebræ, the chord, and its nerves, it will serve to keep them in their proper situation.

2. In those cases where the chord and its nerves have been found passing through the cavity of the tumor, the fluid has, I think, been effused into the *sub-arachnoid* cellular tissue after *partial adhesions* had formed between the chord, with its nerves, and the two layers of the arachnoid at the posterior part; the membranes having been subsequently made, by the accumulation of the fluid, to project where the least resistance was offered, have carried backwards the adherent chord and its nerves, the anterior branches of which, having to pass to their foramina, have thus been made to intersect the cavity of the tumor.

3. If the chord and its nerves are found spread out upon the posterior wall of the sac, without passing through its cavity, the fluid has been effused into the *sub-arachnoid cellular* tissue after *extensive adhesions* had firmly united the chord, or its nerves, and the two layers of the arachnoid at the posterior surface; these parts, thus united, having been subsequently forced outwards by the accumulation of the fluid which, in these instances, necessarily takes place before the cord, the anterior spinal nerves will be found running along the walls of the sac to reach their proper foramia.

If the *anterior* spinal nerves are connected with the tumor, we shall find branches going to the sac, and returning from it to reach their respective foramina, through which they always pass, to form the different plexuses; but if some of the *posterior* spinal nerves only are out of their place, they will *generally* be lost in the walls of the sac, or in the neighbourhood to which they are distributed.

The greater or lesser degree of paralysis of the inferior extremities which sometimes accompanies spina-bifida, may be generally explained by the connection of the sac with the chord and its nerves, which have, in some cases, been found soft and pulpy, and in other cases wasted, or altered in structure, by the pressure to which they have been submitted.

Several cases of persons affected with spina-bifida living beyond the adult age have been placed upon record. The walls of the sac, in these cases, generally become thickened and firm, and the tumor then remains stationary, as in Case IV. in this paper; but in Case III. it will be seen that the tumor, of the size of an adult's head, has gone on increasing up to a very recent period, and that its walls, instead of being opaque and firm, were thin and transparent, so that the lad was in constant danger of having serious mischief produced, even by a slight accident. In some of these cases it has been remarked that there was more or less paralysis, either of the sphincter vesicæ or of the sphincter ani, and sometimes of both, even when the inferior extremities were well developed, and not in the least degree affected with paralysis. Such was the case in the patients whom I have mentioned (Cases III. and IV.)

Treatment.—The remarks which I have to make upon this point will be confined to the radical cure of this disease.

The dissections of the cases of spina-bifida which have been published, and the preparations which are to be found in our museums, at once point out the rashness of attempting to remove these tumors either by ligature or by the knife. I do not consider this remark to be in the least invalidated by the success which is said to have attended the practice of Mr. Dubourg, who has published in the Gazette Médicale de Paris, 1841, a paper upon the radical cure of spina-bifida. Mr. Dubourg operated upon three cases: in one, a ligature was applied to the tumor—the patient died two days after the operation; in the other two, which terminated successfully, the sac was removed by the knife, and the lips of the wound were brought together by hare-lip pins and sutures. The successful termination of these two cases was, it must be confessed, very fortunate; but this success ought not, in my opinion, to lead any surgeon to adopt so rash a practice; for, laying aside the question of thus opening the theca vertebralis, there still remains the fact that, in the majority of cases, some nerves are connected with the sac, and that, when

the sac corresponds to the sacrum, the chord itself is *generally* connected with the tumor. In one of M. Dubourg's cases the tumor was in the loins; in the other it was at the lower part of the cervical region. The sacs were examined after the operation, *but no nerves were connected with them.*

Several cases, in which the plan of treatment adopted by Sir A. Cooper has completely succeeded, have been placed upon record by various authors; but in these cases two points of importance have not, I think, been sufficiently considered, and I would therefore lay down the two following general rules:—

1st. The tumor ought never to be punctured along the mesial line, especially in the sacral region; for it is generally at this part that the chord and its nerves are connected with the sac. The puncture is to be made at one side of the sac, and at its lowest part, so as to diminish the risk of wounding any of the nervous branches.

2d. The instrument ought to be a grooved needle, or a small trocar; for if a lancet is used there will be a greater risk of wounding some important part contained in the cavity of the tumor.

REPORT
ON THE
ROYAL MATERNITY CHARITY.

By F. H. Ramsbotham, M.D.

(For the London Medical Gazette.)

[Continued from p. 440.]

During the year 1841, there were delivered in the Eastern District of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham,—

2167 *women—Of which cases,*

27 were twins—about 1 in every 80¼ cases: of these in 18 both heads presented; in 7 the presentations were head and breech, or some part of the inferior extremities; in 1 both breech or inferior extremities; and in 1 the head of the first child, and the head, hand, and feet of the second. The children, in 13 cases, were both boys; in 10 both girls; and in 4 of different sexes. In one case the placenta of the first child passed three hours before the second was born; there was no flooding, and the second child was born living.

1124 were males.

1070 were females.

2143 were presentations of some part of the head, of which 7 were face presentations—about 1 in every 313½ births.

44 were presentations of the breech, or some part of the lower extremities—about 1 in every 51½ births; of these 10 were twins.

7 were transverse presentations—about 1 in every 313½ births. All these children were born still. One, a premature twin, passed doubled; another I delivered by decapitation, after having exviscerated it, ten hours after the membranes broke, being unable to turn. In another case, when I was sent for I found the arm had been amputated by the surgeon previously in attendance after ineffectual attempts had been made to turn. The uterus was ruptured, and I had no difficulty in bringing down the feet. This was the woman's sixth child; they had all been preternatural presentations; one before a shoulder; the other four breech. She had a slightly distorted pelvis.

In 1 case the placenta was wholly implanted over the os uteri. The woman was delivered by "turning," and did well. The child was born living.

10 were complicated with alarming hæmorrhage before the birth of the child, *not* the result of placental presentation—about 1 in every 216½ cases. Two of the children presented with the breech; 4 were born living, 6 still; one of which was a breech case. In 7 of these cases the hæmorrhage was controlled by the rupture of the membranes. In 3 the women were delivered by "turning;" one of whom died shortly after. One died also an hour after the natural expulsion of the child; there was no hæmorrhage after the membranes were broken, but she had lost so much blood before that, that although the uterus retained sufficient power to expel the child, she never rallied: the others all did well. In one case the hæmorrhage, which was to an excessive degree, was occasioned by a violent blow on the abdomen. Letting off the liquor amnii did not cause a diminution of the flooding; the child was turned, and born with

animation suspended, but was restored, and the woman did well. The whole of the placenta was separated from its attachment to the uterus before the operation was commenced, as, on the introduction of the hand, I found it lying quite loose in the cavity.

In 16 cases the placenta was retained within the uterus, either by atony, or irregular contraction of the uterine fibres, or by morbid adhesion between the uterine and placental surfaces—about 1 in every 135½ cases. With all there was considerable hæmorrhage. Two were twin cases. All the women did well.

5 were delivered by craniotomy, under head presentations — about 1 in every 433½ cases; all these women did well. Besides these, the head was opened in one, under a breech case. The uterus had prolapsed during pregnancy; and in labour the os uteri, which was very rigid, protruded considerably beyond the external parts during the passage of the child. When the head was pressing against it, as it still gave great resistance, and the arteries in the cord had ceased to pulsate, I perforated the head, and evacuated the brain, to preserve it as much as possible from injury. This woman recovered from the effects of her labour; but in the second week she employed herself about her domestic affairs as usual; she also indulged in porter and spirits, was attacked with hysteritis, and died in the third week. She was the subject of prolapsus uteri when not pregnant.

In 1 case premature labour was induced between seven and eight months, in consequence of a deformity of the pelvis. The woman took the ergot at intervals of four hours for two days, under the action of which medicine the os uteri became soft and somewhat opened; I then perforated the membranes, and in a few hours the child was born living.

In 1 case the uterus was ruptured as above stated. On examination after death the laceration was found to be at the back part of the body, extending in an oblique direction upward towards the right broad ligament; the woman died on the fourth day.

6 women died either within the puerperal month, or from puerperal causes—about 1 in every 361 cases; only 5 however, as a consequence of labour, for one died of apoplexy, not attributable to a puerperal cause—about 1 in every 433½ cases.

2107 children were born living.

87 children were born still—about one in every 25¼ births.

Of the Deaths,

2 were from hæmorrhage, both within an hour after delivery; in both the flooding occurred before the birth.

1 from ruptured uterus, under a shoulder presentation, on the fourth day after delivery.

1 ten days after labour, from peritonitis.

1 in the third week, from hysteritis, the consequence of great imprudence, after having suffered a severe and dangerous labour.

1 a week after delivery, from apoplexy.

Of the still-born children,

14 were premature.

18 were putrid, at full time, or nearly so.

9 were breech presentations, at full time, or nearly so; in one case the head was opened.

7 were transverse presentations, at full time, or nearly so.

6 were under accidental hæmorrhage.

2 were under lingering labour.

5 were delivered by craniotomy, head presenting.

1 after the uterus had burst.

With 6 the funis prolapsed by the side of the head. The funis descended also in two other cases; in one the child was born strong and hearty; in the other with animation suspended, but it was restored.

With 1 there was a tight knot upon the funis.

4 were monstrous; two of these acephalous.

1 woman had suffered a severe accident.

1 woman was ill with influenza.

1 child was smothered in the membranes, being born before the midwife arrived.

11 were at full time, not putrid, nor delivered by art; there being no assignable cause for their not being born living. Of these 4 were twins.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allongeroɔ que le lecteur se tue à abréger."—D'ALEMBERT.

Enchiridion Medicum: or a Manual of the Practice of Medicine, the result of fifty years' experience. By C. W. HUFELAND. Translated from the 6th German Edition, by Casp. Bruchhausen, revised by K. Nelson. New York, and London, Baillière.

THE ordinances affecting the vestal virgins of old have been often quoted. They were received into the Temple not before six, nor later than ten years of age. During ten years they were engaged in learning their duties; during ten years they practised them; and during ten years they taught them. After this they were at liberty to join the world again, to marry or to live free as they pleased. It were an excellent provision in the anticipated "Medical Provision Bill," were there a clause to the effect that no physician, surgeon, or apothecary, should be suffered to write on any subject of practical medicine or surgery until after he had been engaged during ten years in learning his profession—say from twenty to thirty; and during ten or more years in practising it—say from thirty to forty or fifty; after this it would be competent for him to write,—to take on himself the business of instructor. What a world of labour we should then be spared! How pleasant would the critical tasks prove which we should then have in hand! The only difficulty would be, that we should be without the supply of books necessary to afford us subjects for our hebdomadal analysis or criticism; but the excellence of the article would undoubtedly make up for its rarity, and so there would be no actual loss.

One of the best (? *the best)* books we have on the practice of medicine is "Heberden's Commentaries;" and this was not published till after the author's demise at the age of ninety years and upwards. It is a small volume, as all the world knows, but of inestimable price. Hufeland had probably Heberden in his eye, when he wrote his "Enchiridion," though we do not recollect that he imitated that distinguished physician in not suffering his work to appear till after his death; it ran, if we recollect rightly, through two or three editions during his life-time, the proceeds of the sale going to aid the funds of a society for the relief of decayed medical men.

Hufeland was probably one of the purest embodiments of what we call the "practical man" in England; he did not neglect science, indeed; he was kept to its level by means of the Journal and Bibliotheca which he edited for so many years; but it was therapeutics which seemed to engage his attention, to have all his devotion. The consequence of this could have been foretold: Hufeland had immense practice—the unbounded confidence of the public. He had what may be called a "believing mind,"—one of the happiest of endowments for the practitioner of medicine: he had not only a holy faith in rhubarb and senna himself, but he inspired the same faith in those he visited; and, judicious in his prescriptions, his medicines wrought with a double power—they influenced the patient morally as well as physically, and in the most advantageous manner.

But then the comparative absence of "philosophy" seems to have made his life much less influential than it otherwise would have been: he is said to have left no school; no host of distinguished pupils, each an enshrinement of the master's spirit in a more advanced and perfect state. Be this as it may, Hufeland lived usefully to himself, to his patients, and, through the medium of his Journal, to the profession, for a long series of years; and in the "Enchiridion," whose title stands above, we have the condensed results of the experience of his entire life. The author's motto shews much of the man; it is brief, and to this purpose:—

What life hath taught me; what I have approved
Of use through life, in truth and thankfulness
I here present at fair Hygeia's shrine;
In death I still would be your friend and helper.

Hufeland was, in fact, like so many other distinguished members of our profession, one of the best and most charitable of men; he was not only an ornament to his order, but to humanity.

Any attempt to analyse such a work as the Euchiridion Medicum were vain; we can only recommend it to the notice of our friends. They will find hints there that may prove useful to them in more ways than one; in the treatment

of obstinate chronic diseases especially. In the original it has been long familiar to us, and frequently turned to with interest. The American translation appears, if not elegant, yet faithful; and that suffices in such a book. It is not in every medical work we purchase that we can have the results of fifty years of experience.

MEDICAL GAZETTE.

Friday, July 5, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

THE HARVEIAN ORATION, BY DR. OGLE.

WHEN the *Times* newspaper gives a full report of aught in the shape of medical news, we feel as matter of course that we have been fairly anticipated, and that any farther word *we* have to say must be "stale, flat, and unprofitable" to our readers' eyes or ears. Nevertheless, the Harveian Oration is one of those incidents in the course of the year, that bids us pause and pay our tribute to the memory of intellectual greatness.

The main drift of Dr. Ogle's discourse was to insist on the necessity of a most liberal preliminary classical education for the young men destined to the medical profession. In this country, up to the present time, classical acquirement is indeed almost the sole evidence we have that a man has been liberally educated. There is little else but classics attended to in our oldest and best public schools. At the time these seminaries were founded, Latin was the only language in which the man who had a taste for letters could find any food to meet it; the dark and the middle ages were mental blanks; and with the revival of letters, there was nothing for it but to overleap these benighted periods, and to fall back upon the writings of Cicero, and Tacitus, and Livy, of Horace and of Virgil; and by and by even to ascend the stream of time, and to comprehend Demosthenes and Herodotus, Homer and Æschylus, &c. This was the natural, and under the circumstances the necessary course; and the influence which it has had extends to the present hour. Whether it might not now be advantageously departed from is no longer a question in our mind. We think that it might; seeing that we have created a literature for ourselves more copious, and no whit less noble, than that of either Greece or Rome, and enriched ourselves besides with the acquisition of sciences which were unimagined in former ages. We have noble poetry, both epic and lyric, stirring oratory, tragedy and comedy, such as it never entered into the mind of man to conceive before; history as vigorous and as interesting as was ever written, and moralists, and essayists, and romancers, who have made us heirs to works each and all of which are as well calculated to develop the understanding and the feelings, as aught that Greece or Rome has left us. The old system *need not* any longer be followed; we are amply independent of it:—but whilst it is followed, let us insist on its being pursued to purpose; let us have our physicians and surgeons men deeply imbued with the *literæ humaniores;* we would have none suffered at this present time, and whilst our educational system continues as it is, to enter upon the study of the medical sciences, properly so called, who had not given preliminary proof of having made satisfactory progress in classical polite learning, as well as having mastered the elements of the physical sciences.

We trust, for our part, never to see the divorce effected between our noble profession and the English Universities, to which Dr. Ogle alludes as

threatened. We should even like to see it *imperative* on the future physician and surgeon to have passed some years at Oxford or at Cambridge; not occupied, indeed, as the young men of the present day, so commonly possessed of independent fortune, who crowd their noble halls, are occupied, with boat-racing, and horse-racing, &c. but as we love to imagine Milton or Locke to have been occupied--seriously, soberly, profitably, not only to themselves but to mankind—drinking at the fountain-head of lore, improving their opportunities, fashioning their own noble minds to surpass the noble minds that have gone before them, and bent on making the world heirs to their immortality; for there is no nobility admitted now that is not of the mind, and there is no immortality among men that has not its roots in worthy thoughts and deeds. Let Oxford and Cambridge perfect their system of education for medical men, and they can defy any legislature to take away their privilege of granting degrees—the only degrees worth having in the present day—certificates of superior education; and the effects of this—men visibly beyond their fellows in conduct and acquirement. No; *sit perpetuus Nuptus!* say we. Our profession would, indeed, suffer severely from the threatened divorce between our Universities and medicine; but we believe that society would suffer still more, and is still more interested than we in maintaining the union that still exists between them.

And now we are going to be guilty of what we fear will be held a monstrous heresy with those among our readers whom we esteem most.—We wish this Harveian Oration were delivered in English. Making no pretensions to extensive classical lore ourself—we had not the advantage of being bred at Eton or Harrow, and finished off at Oxford—we are still a competent Latin and Greek scholar; but we will own that we are slow to follow words in any language to which our hearing is not tutored. This may be from some defect of ear on our part; though it is a defect that we know to be common enough: every well educated man and woman in the present day, for instance, reads, and even manages to speak indifferently, the French language; but of all the English folks who frequent the French play, how many succeed in following the dialogue with perfect understanding of its meaning, aided though it be by pantomime the most expressive? We believe not a dozen of the whole assembly, and these all of them persons who have had their hearing cultivated—habituated to the sounds of the spoken French tongue. We do not scruple to say, that even Dejazet and Jenny Vertpré are tiresome to us, now that we only go to the French play once in a season —we have not been there at all this year—and why? Because we cannot follow the speakers without the book; because our ear, that has in former times drunk in with delight and understanding the voices of Talma, of Duchenois, and of Mars, has become unaccustomed to the sounds, and we sit abstracted from the scene, unengaged with what is passing, chewing the cud of sweet and bitter fancy, the morsel something very different from the matter in hand. It is even so with the Harveian Oration: delivered in Latin, it necessarily falls, in a great measure, meaningless on the ear; and though it would look ignorant and uncultivated to own so much, we can nevertheless perceive by the blank looks of our brethren at large, that the truth is, very few of them follow the orator with perfect understanding through the whole of his discourse. Some few—very few—do follow; and they smile,

or they murmur, or break out into louder applause from time to time; and then the others smile, or murmur, or applaud, in imitation. Massillon and Bossuet would never have had their congregations starting to their feet with one consent, had they been delivering themselves in Latin. Fettered themselves, speaking in a foreign language, their words could never have had power to move in the highest degree, even though they had spoken to perfectly intelligent ears; addressing organs that were either wholly sealed against their meaning, or only partially opened to its import, how could they have hoped to commove at all? Demosthenes, addressing Greeks, thundered his orations forth in Greek, and bore all before him on the tide of his burning words. How would he have succeeded had he addressed his countrymen in Sanscrit or Chaldee? Germany, struggling into intellectual and literary existence, so lately as the time of the Second Frederic of Prussia used the jarring French, as she had hitherto employed the more grandiloquent Latin, as the medium of making herself heard. But this period soon passed; and with her Lessings and her Klopstocks, her Herders, Schillers, and Goethes, she threw off her foreign chains, and in the course of little more than half a century has taken her place in the republic of letters and science, second only to England; and second solely because England had her Shakspear and her Milton, her Newton and her Bacon, to boast of.

The Harveian Oration ought to be in English. The mass of orators would probably be tame enough then; they could not be less effective than they have generally yet been, delivered in Latin. Now and then some one would be found with soul and oratory enough to rise to the full height of the noble argument; and single orations would then be produced that would outweigh the contributions of centuries in Latin diction. We heartily wish Dr. Ogle would give us his excellent oration in English. It were one of the legitimate things connected with our profession which the public might read, and which could not fail favourably to impress even the fair sex with the humanity, the taste, the high honour, the learning, and the ability, of the men engaged in the legitimate practice of medicine. An opportunity of this kind, in these days when we are so commonly judged of by successful jugglery and mere mockeries of science, ought not to be neglected.

BILL FOR REGULATING THE MEDICAL PROFESSION.

In the House of Commons on Monday night last, Mr. Macaulay begged to remind the Right Hon. Baronet, the Home Secretary, that on more than one occasion during the session he had expressed his intention of bringing in a bill for regulating the medical profession, not with the view of passing it this session, but that it might be printed, in order to let the profession have an opportunity of considering its provisions during the recess. He would be glad to know whether it was the intention of the Right Hon. Baronet to lay such a bill on the table before the close of the session?

Sir J. Graham said the House would recollect that he had on more than one occasion expressed his intention of bringing in such a bill. He did not, however, wish to bring it in without having the opportunity of stating the grounds of it, and its provisions in detail. He should, however, ask leave to lay such a bill on the table before the close of this session.

This is somewhat indefinite. The Right Hon. Baronet, the Home Secretary, does not wish to bring in his bill

without the opportunity of stating the grounds of it, and its provisions in detail; but he will ask leave to lay such a bill on the table before the session closes. If the Home Secretary do not see the opportunity he craves, he is therefore not bound to let us see his bill this session. Did he understand that his bill was really now become a thing *necessary* to the medical profession, we trust Sir James would be induced to yield to its strong desire to be informed of his purposes. When we look at the mass of business still to be got through in the House of Commons, in contrast with the period of the session, and the known and continually increasing eagerness of the honourable members to get out of town as the month of August approaches, we do candidly confess that we despair of seeing the opportunity present itself for going into "the grounds and provisions of the bill in detail."

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, June 18th, 1844.

The President in the Chair.

Case of Acute Retinitis, caused by the use of the Microscope. By William White Cooper, Surgeon to the North London Ophthalmic Institution, &c.

The following case is considered interesting by the author, as offering a warning to those microscopical investigators who are in the habit of pursuing their researches with powerful instruments and the aid of strong and concentrated light.

Mr. G——, a gentleman well known for his remarkable skill in minute and microscopical dissection, was engaged, on Friday, the 29th of April last, in dissecting the nerves of the human tongue under a powerful microscope, and in a situation exposed to the full influence of the sun, which, although occasionally obscured, burst forth at times with great power.

The nerves, having been cleanly dissected, were of a dazzling white, and whilst he was intently regarding them through the microscope, the sun, which had previously been obscured, suddenly shone forth with all its brilliancy upon them.

Acute pain was instantly felt in the eye, pervading the whole globe, so severe as to cause Mr. G—— to start back and utter an exclamation. He paused from work, but for some time was not able to see anything with that eye, the spectrum of the sun continuing before it, whether closed or open. In about twenty minutes, however, this, as well as the pain, had sufficiently subsided to enable him to resume work with the other eye, but the injured organ was not free from uneasiness until the evening.

The following day the eye was not painful, and he incautiously used it to complete his dissection, when the very same occurrence took place as on the previous day, the reflected rays of the sun being thrown powerfully upon the retina. This time the shock was excessive: great and deeply-seated pain pervading the whole globe, with much intolerance of light, immediately set in, and the spectrum of the sun was most distressing. He remained in acute suffering all the evening and following night, and on the next day (Sunday) it continued to increase with a sensation of fulness and tenderness of the globe, and extreme intolerance of light. Fomentations failed to afford relief, and when he consulted Mr. Cooper on Monday morning, the following were the symptoms:— acute, deep-seated pain in the eye, exquisite tenderness especially at the upper half of the globe, great intolerance of light, profuse lachrymation, any attempt at vision produced luminous spectra, pupil concentrated, iris natural, conjunctiva but slightly injected, pulse feeble and irritable: he complained of weakness and mental depression.

He was sent to bed in a darkened room, and ordered to apply twelve leeches around the eye, to foment, and to take a purgative pill and dose. Mercury, he stated, always disagreed with him; and this, which is so important an auxiliary in such cases, was therefore obliged to be used with great caution.

The next day he was rather easier; friction of the brow and temple with mercurial ointment and opium was directed, Pil. Hydrarg. with Conium ordered at night, with saline and antimony at intervals. The following day all the symptoms were alleviated. The antimony was omitted, but the mercurial directed to be continued.

On Thursday a still greater improvement was manifest, the eye being perfectly free from pain except when exposed to light.

There was, however, great debility and general exhaustion, and half a grain of Quinine, twice a day, with a moderate meat diet, was ordered. The mercurial friction being continued.

This treatment, with counter-irritation behind the ear, and the use of a mild astringent collyrium, was steadily pursued

for a week with advantage, although the least exertion of the eye immediately produced luminous spectra.

The further treatment of the case presented nothing remarkable. The eye gradually and steadily recovered, and is now perfectly well.

From the state of general debility in which the system was at the time of the attack, taken in connection with the constitutional antipathy to mercury, the free exhibition of that medicine was inadmissible, whereas the patient did perfectly well under its cautious use, the system being at the same time supported by a nutritious diet, and the careful exhibition of tonics.

A few Remarks upon the Origin and Treatment of Syphilis, and upon the extraordinary prevalence of the disease in the East as compared with the West Indies, with the marked influence of famine in extending its ravages. By JOHN CLARK, M.D. Staff-Surgeon (2d Class). [Communicated by Dr. GORDON, Deputy Inspector-General, Vice-President of the Society.]

THE author presents a table showing the number of patients admitted into hospital for gonorrhœa and syphilis in regiments stationed in the East and the West Indies during the year 1829, and he deduces from it that more cases of these diseases occurred in each individual regiment in the East Indies, than were met with in the same time in five regiments which served in the island of Jamaica. In another table, which contains the admissions for the same diseases in the 13th Regiment of Dragoons, during fifteen years that it served in the East Indies, the author makes a contrast between the years of plenty and those of famine; and he shows that there was an extraordinary increase in the number of cases during the latter compared with the former years. To account for these differences, the author enumerates various circumstances in the mode of life of the native females in the two parts of the globe, which may explain the greater freedom from the above diseases in the West Indies compared with the East; and he adverts particularly to the encouragement given to marriage, as well as the exception from famine among the Negroes in the West Indies, as contrasted with what is met with in the East.

The author concludes by discussing at length several general questions relating to syphilis and its treatment.

An Account of the Dissection of a Cyst containing Seminal Fluid. By JAMES PAGET.

THE cyst described in this paper was situated on the upper and inner part of the epididymis, external to the tunica vaginalis. It was about $\frac{2}{3}$ of an inch in diameter; its walls were thin but opaque, and composed of a fine fibro-cellular tissue, lined by a very delicate tessellated epithelium. It was filled with a milky-white, non-albuminous fluid, in which there were numerous dead spermatozoa and spermatic granules. The most careful examination showed that the cyst had no open connection with the vas deferens or any part of the seminal tubes; it was on every side closed and isolated from the surrounding parts.

In explanation of this and similar cases of cysts containing seminal fluid (for their contents are not merely spermatozoa floating in an ordinary fluid, but semen more or less perfectly formed), the author suggests that their occurrence is analogous to that of cysts, most commonly found in the ovaries, containing hair, epidermis, sebaceous matter, and other products of the skin. In these cysts either the whole or part of the wall is formed of true skin-tissue, with its various imbedded organs of hair-follicles, sweat-glands, &c., all of new formation; a fact, which is more remarkable than that, close by the organ by which the materials of the semen are naturally produced, and therefore in some measure under its influence, cysts should be be formed which can secrete the materials of the seminal fluid. And as, in the cysts containing hair, &c. these organized secretions are often found imperfectly formed, so in these seminal cysts the semen is probably sometimes very imperfectly organized; in evidence of which, the author gives an account of the dissection of two cysts like the first described, in which bodies like imperfectly formed spermatozoa and spermatic granules were found in a thin milky fluid.

In the first described case there was a cyst containing about four ounces of fluid like that of ordinary hydrocele of the tunica vaginalis, but no organic particles. This cyst was in front of the spermatic cord, and completely separated from the cavity of the tunica vaginalis; but it had been tapped in the belief of its being a common hydrocele, and its true nature was not discerned till it was diseased. The author suggests that in the cases in which it has been supposed that the fluid of common hydrocele contained spermatozoa, the fluid has been drawn from cysts like this, and not from the tunica vaginalis; and that, as the cysts in which hair, &c. has been formed, after a time wholly degenerate and lose their cutaneous tissues, so seminal cysts may, after secreting seminal fluid for a time, degenerate and secrete a common serous fluid; or serous fluid from one part of their walls and seminal fluid from another.

Proposals for the improvement of Diagnosis in the investigation of the Diseases of the Uterus: with an account of a newly-invented Speculum Uteri. By PROTHEROE SMITH, Assistant Teacher of Midwifery at St. Bartholomew's Hospital; Surgeon to the Hospital for the Diseases of Women; Consulting Accoucheur to the Central London Lying-in Institution, &c.

THE speculum described in the paper consists of a glass cylinder fitted to an outer one of metal, within which it slides. The metallic tube has its inner surface highly polished, the reflecting powers of which are still further increased by the glass cylinder which it contains. The edge of the smaller or uterine extremity is rounded into a smooth ring, which projects slightly from the inner surface, facilitating its introduction per vaginam, and also presenting a limit to the farther progress of the internal tube. In its side is cut an oval aperture of about three inches in length, and two in breadth, and extending to within an inch of the uterine end of the cylinder. The other extremity terminates in a rim, having its surface blackened for the purpose of absorbing any rays of light which might otherwise be reflected so as to dazzle the eye of the observer. There is also a corresponding rim to the glass tube, by which it is more easily withdrawn from the metallic cylinder.

The author had found this instrument of great use in examining the condition of the vagina. With this view the speculum should be passed per vaginam to its full extent, when, by partially withdrawing the glass tube, a portion of the lining membrane would be seen protruding through the oral aperture into the cavity of the cylinder, and, by turning it gently round, every part of the canal would be successively brought into view. Thus it had been found to be of much assistance in cases of vesico-vaginal fistula, when the opening was so minute as to perplex the operator, if not to elude his search.

For the application of leeches to the cervix uteri or the surface of the vagina the instrument is also well adapted. To accomplish this, two fine wire-gauze tubes are supplied; one for the os uteri, the other for the vagina. In the former, one end only is open, through which the leeches, previously placed within it, are brought into immediate contact with the os uteri by means of a wire-gauze piston. In the latter, each end is closed, and there is an oval aperture similar to that in the metallic tube. The aperture in the outer tube being directed to the part of the vagina about to be leeched, the wire-gauze cylinder containing the leeches is introduced, and turned round until the two openings correspond.

After enumerating several of the uses to which the instrument may be applied, the author directs particular attention to the superior advantage which it possesses over other instruments of the same kind, that it enables the practitioner to feel with his finger, as well as to see, the diseased parts, in the course of his examination.

Case of Fistulous Communication between the Intestinum Ileum and Urinary Bladder, simulating Stone in the Bladder. By W. C. WORTHINGTON, Esq. Surgeon to Lowstoft Infirmary, and Fellow of the Royal Medical and Chirurgical Society. [Communicated by JAMES COPLAND, M.D. F.R.S. &c.]

THE patient, a female, 65 years of age, previously enjoying good health, began four years ago to suffer from pain in the right iliac region, the cause of which could not be satisfactorily traced. Having continued to experience this pain, symptoms indicating disturbance of the urinary organs commenced in November 1842. Her pain was now much aggravated: she had frequent and painful micturition, the urine was very ropy, and highly offensive, and fragments of extraneous matter, the exact nature of which was not ascertained, were often found deposited from it. On sounding the bladder, no calculus was felt, but there was a grating produced by moving the instrument, which led to its being supposed that some malignant ulceration had taken place in the coats of the bladder. The treatment consisted chiefly in giving anodynes to relieve the pain. The patient survived about four months, and died from an attack of diarrhœa.

On examining the body after death, adhesions were observed between the convolutions of the intestines and the pelvic viscera. By further dissection, it was found that a fold of the intestinum ileum was closely adherent to the fundus of the bladder, and that a communication existed between the two cavities, by an ulcerated hole which extended through the coats of the intestine and the bladder, and was sufficiently large to admit the point of the index finger. On slitting open the bladder, it was filled with feculent matter and undigested food, such as currants, seeds, and other vegetable matter. The coats of the ileum, near where the ulceration had taken place, were thickened and indurated, and the canal consequently strictured.

The author concludes by quoting Dr. Copland's Dictionary of Practical Medicine, where similar cases are referred to, with interesting observations on fistulous communications between the intestines and other viscera.

Cases of Mollities Ossium: with Observations. By S. Solly, Esq. F.R.S. Assistant Surgeon to St. Thomas's Hospital; Surgeon to the General Dispensary, Aldersgate Street.

The author of this paper relates two cases of mollities ossium in the adult, which have lately come before him.

The first case was that of a young woman, aged 29, in whom the disease first exhibited itself seven years previous to her death, by a fracture of the clavicle caused merely by the exertion of lifting a stool. The disease advanced in the spinal column and skull, in which latter portion of the skeleton it was of such an active character that the membranes and substance of the brain became secondarily affected, and insanity was the consequence. When in St. Luke's Hospital, in 1840, whither she was removed in consequence of her mental derangement, the lower extremities gave way, and depriving her of the power of walking, she was obliged to push herself about the floor upon her haunches. On the 11th of April, 1842, she was admitted into Hanwell, where she died in the October following, the disease having attacked almost every bone in the body.

The second case was that of a woman, aged 39, whom Mr. Solly admitted into St. Thomas's Hospital a few days before her death. In this case the progress of the disease was rather different: it commenced in the lower extremities, and attacked the rest of the skeleton subsequently. The immediate cause of death was suffocation from contracted thorax, one lung being wholly impervious to the air, and the other nearly so.

Mr. Solly proposes that this disease should be distinguished from other kinds of softening of the bones, by the title of Osteo-Malacia *rubra* et *fragilis*, from the colour which the bones invariably exhibit in their interior when divided, and the fact that they almost invariably break, and not bend, as in rickets. The two adjectives appear advisable, as the redness in the interior exists in the early stages of rickets, an essentially different disease, while their liability to fracture is not characteristic of this complaint alone. From a comparison of the symptoms during life with the appearances after death, he has been led to believe that the disease is of an inflammatory character; that it commences with a morbid action of the blood-vessels, which give rise to the severe pain in the limbs invariably attendant on it, but more especially on its commencement, and exhibits itself after death by an arterial redness of the part. The absorbent vessels are at the same time unnaturally excited, and the earthy matter of the bone is absorbed and thrown out by the kidneys in the urine, which excretion is sometimes so abundant, that, as in the last case, it clogs up the calices and pelvis of the kidney, and forms a solid calculus. The important fact of the excretion of phosphate of lime had not, according to the author, been previously established.

Earthy deposits in the urine have been almost always observed in these cases, but chemical characters have never before been minutely examined or stated. The place of the phosphate of lime in the bones is supplied, he supposes, by that morbid secretion of red grumous matter which has been so universally found in this disease, and which was abundant in both the cases just related. The microscopic examination of this matter, showing cell development in its various stages, confirms the impression that it is an adventitious morbid product, and not simply the fatty matter of the bone altered by effusion of blood into it. He thinks that the enormous hypertrophy of the bones of the skull in the first case demonstrates that mollities ossium is an active disease, and not a mere atrophy; and the inordinate vascularity of the bones of the skull, though unaccompanied by increase of thickness, in the second case, proves, in his opinion, nearly as much. He concludes with several observations on the symptoms and the treatment of the disease. The paper was accompanied with numerous drawings, which represented the remarkable deformities produced by the disease in the two patients, and illustrated the changed condition of the interior of the bones, as exhibited in several sections.

Some Statistical Records of the Progress of the Asiatic Cholera over the Globe. By S. W. J. Merriman, M.D.

The author's attention was first directed to this subject by being appointed to deliver the Thurston Oration last year at Caius College, Cambridge, taking "*cholera*" as the immediate subject of his thesis. He then found that much authentic information was wanting to render the history of this pestilence complete, and he endeavoured to procure the necessary data for filling up the vacancies.

By the kindness of Sir Wm. Pym, he obtained from the Privy Council Office a copy of the summary of the reports sent up daily to the Central Board of Health, and containing a vast body of most valuable information never published. This summary includes all the cases reported between October 26, 1831, and December 31, 1832; being about 82,000 in number, occurring in 422 places in Great Britain, which he has analysed thus: places in England 277; Scotland 127; Wales 17, and Isle of Man. He has made several analyses of the information thus obtained, and has extracted the returns from the principal places, thus presenting at one view a general idea of the extent of the

ravages of the disease, and also the dates of the first and last cases, the consequence and duration of the disease in each place, the number of cases, deaths, and recoveries, with the proportion of the mortality, and also of the population affected, &c.

This he has prefaced by a very concise account of the progress of the disease over the globe, and has followed it up by a recital of all the facts that have come to his knowledge, of the subsequent history of the disease spreading over America, and the southern parts of Europe, a part of the history hitherto very scanty and meagre.

The author has also copied an account, given by Mr. Henry, Surgeon to the Forces, of the precautionary measures taken at Kingston, in Canada, to prevent the occurrence of the disease in the army by infection, or, if present, to restrain it as much as possible. The barracks were isolated, the soldiers were relieved as much as possible from hard work, but carefully kept at light and agreeable occupations; they were carefully inspected each day; it was noticed with what appetite they took their meals; and any the least appearance of disease arising was instantly attacked by appropriate treatment, so that remarkably few cases, and of course fewer deaths, occurred in the army stationed at Kingston. Saline transfusion was tried with great temporary success, yet although one man was kept alive for seven days by constant pumping, not a single case eventually recovered. Mr. Henry's "favourite remedy was castor-oil, combined with a small quantity of laudanum, given in some grateful and demulcent fluid, as hot as possible; making the patient lie on his right side, for the assistance of gravitation towards the pylorus, and to prevent nausea." This plan he used, he says, in some hundreds of cases. Acetate of lead was found to be very beneficial in the attack of cholera in 1834; also bleeding, where the spasms were strong: but in another form of the disease debility was the characteristic, and in these cases venesection was injurious.

Observations on the recorded Cases of Operations for the Extraction of Ovarian Cysts. By Benjamin Phillips, F.R.S. Assistant-Surgeon to the Westminster Hospital.

The object of the paper is to bring together the results of these operations, for the purpose of determining whether the plan of treatment is to be regarded as a benefit conferred on humanity or not.

Extirpation of ovarian cysts has been practised, as appears from the tabular arrangement of the cases, at least sixty-nine times. In fifty cases the tumor was extracted; in fourteen cases adhesions or other circumstances prevented its removal; in five instances no tumor was found.

Of the cases in which the operation was completed, the tumor being extracted, thirty terminated favourably, the patients recovered; in twenty instances the termination was unfavourable, the patients died.

Of the five cases in which no tumor was discovered all recovered. Of the fourteen cases in which adhesions or other circumstances prevented the extraction of the tumors, eight recovered, six died.

The proper way, therefore, according to the author, of looking at this plan of treatment is, to observe the number of cases submitted to operation, and the number of recoveries after the removal of the tumor. He conceives this to be the fair way, because what has happened already is likely to happen again. Adhesions may be too strong and extensive to make removal prudent, the tumor may be other than ovarian, or it may be that no tumor can be found. Regarded in this light, it appears that the operation has been undertaken sixty-nine times, and that in thirty instances the patient has recovered after the extirpation of the tumor. It is true that forty-three patients survived gastrotomy; but many of them were subjected to such a painful operation, on the one hand, without necessity, and, on the other, without being disembarrassed of the disease.

Two different plans have been followed in the operation; and it is proper to ascertain whether there has been a corresponding difference in the results. In the one plan, the incision of the abdominal parietes is sufficiently extensive to admit of the removal of the tumor entire; often extending from the ensiform cartilage to the pubis. In the other plan, the incision has had the extent necessary for the removal of so much of the tumor as would not escape through a puncture or incision made in it before the extraction was attempted. If the tumor contains little or no solid matter, a puncture might cause the complete evacuation of the contents, and the cyst might be removed through a very small opening. The author thinks the evacuation before extraction, and not the exact length of the incision, the important distinction between the two operations.

The principle of extraction entire has been followed in forty-four instances: the instances of successful removal by this plan amount to eighteen. The cases in which the plan of procuring the evacuation of as much as was practicable of the contents of the tumor before the extraction of the tumor was attempted, amount to twenty-five; the instances of success to twelve.

The evidence is, then, directed to the consideration of the following points:—1st.

Can we determine with certainty whether a tumor be ovarian or not? If not, have the failures been so frequent as to constitute a reason why the operation should not be attempted?

2d. Supposing a tumor to exist, and to be ovarian, can we ascertain the nature of its contents, as well as its connections? If not, have the failures been so many as to be an objection to the adoption of the operation at all?

3d. Are the results of this plan of treatment sufficiently favourable to justify us in preferring extirpation to any other mode of treating ovarian tumors? If so, what plan of operation promises most success?

The general materials, together with the circumstance that the author has been present, either as principal or assistant, in six of the operations, have given him peculiar facilities for fairly considering those questions; and the conclusions he comes to are, that we have not the means of determining with absolute certainty whether a tumor be an ovarian cyst or not (though he thinks the chances of error ought not to be so large as is represented by the tables); that we have no sure means of ascertaining the contents and connections of tumors presumed to be ovarian. After an elaborate consideration of the third question, he says, "the aspect in which the question should be ultimately regarded is this—the circumstances of the patient's case are so pressing that relief must be afforded; and, as all other means have failed, it must be by an operation. Tapping is usually a successful operation; so far, at least, as to afford immediate relief; and, in an ordinary case, the patient may reasonably expect to live four or five years; not in comfort, it is true, but requiring relief three, four, or more times, it may be, in a year. Extraction, though not a very painful, is a dangerous operation: the experience we possess justifies us in the expectation, that in at least forty-three cases out of every hundred the tumor may be extracted, and life saved; but at the same time it must not be concealed, that out of the sixty-nine operations to which reference is made, twenty-six died, and that soon—in fact, in a few days.

If the results already stated should be held to justify the performance of the operation of extracction in cases of ovarian tumors, it is incumbent upon us to select the operation which is least painful and perilous to the patient. It must be borne in mind that the plan of making such an incision as would admit of the extraction entire was employed in forty-four cases, and that the recoveries after extraction amount to eighteen cases. The plan of making such an incision as would admit of the extraction, when as much as possible of the contents were removed, was followed in twenty-five cases, of which twelve recovered after extraction. The proportion of recoveries being in the one case 43, and in the other 48 per cent. The author's own experience is much more favourable, being five out of six.

It is evident, therefore, that the preponderance of success is in favour of what is termed the minor operation, that is to say, an operation in which the incision is as small as is consistent with the easy removal of an inflated cyst, provided it be large enough for the convenient application of the ligature around the pedicle.

Dr. Moore commenced the discussion on the last paper, which was the only one read at the last meeting for the season of the Society, by stating the necessity which existed for distinguishing the various kinds of ovarian tumors. Experience had made him familiar with at least three: 1st, where the ovary itself became converted into a cyst containing a simple watery fluid; 2dly, where the Graafian vesicles underwent degeneration, and became cysts filled with a thick, yellow, tenacious secretion; and 3dly, where a cyst was formed, not in the ovary itself, but in the adjoining peritoneal tissue, and which was the seat of those various coloured matters which were occasionally withdrawn from ovarian tumors by paracentesis. The first kind formed the cases peculiarly adapted for the operation of extirpation. He deprecated at some length the opinions expressed in the Society on a late occasion against the reception of this among the number of recognised surgical operations, believing that it would not be more fatal than lithotomy and many other admitted operations. From the paper he thought the eventual success of operations for extirpating the ovary was already shown to be more satisfactory than those practised by surgeons for diseases of the kindred organ, the mamma, the diseases of which, as far as his experience had shown him, always returned after the operation, and proved fatal.

Mr. Brown (a visitor) dissented from Mr. Phillips's statement of the utter inefficacy of therapeutical remedies in ovarian disease. He had himself succeeded in four cases by mercury carried to slight salivation, diuretics and tonics, and compression of the tumor combined with tapping. He had a fifth case under treatment, which he was certain would ultimately get well. Absorption had commenced, and the tumor had already lessened three or four inches. He had read these cases before the Physical Society of Guy's Hospital, and both the cases and the mode of treatment would be found described in the Lancet of May last.

Mr. Frederick Hale Thompson was astonished to hear the opinions expressed by the last speaker. How could any action

of the absorbents carry off such a thick yellow secretion furnished by such an extended secreting surface as that of the tumor, and one supplied by an artery as large as his little finger, and capable of pouring out such an immense amount of secretion? He warmly advocated the operation of extirpation of the ovary, but stated that it had not yet been performed at any hospital except Guy's. Indeed, he believed the operation was not adapted for hospital practice, because such institutions were unable to command attention to those numerous minute circumstances, amongst which was the preservation of an elevated temperature during and after the operation, and which was essential to its success.

Mr. Davies, of Hampstead, did not understand, and should like to know more about, the cases of incision which had been practised where no tumor existed, and those of dry tapping, and tapping for hysterical tympanitis, alluded to by Mr. Phillips. To his mind such occurrences were quite incomprehensible.

Dr. Theophilus Thompson complimented Mr. Phillips for the extensive research which his paper displayed, but would like to be informed, as some of the cases quoted were operated on so far back as 1816, what had been the result in those instances.

Mr. Coulson would also like to inquire whether age had exerted any, and what, influence over the results of the operation.

Mr. Phillips stated, that he was not prepared to occupy the time of the Society by going over such letters as might be found in the paper, but that he should confine himself to answering the several questions put by preceding speakers. He had no intention of considering the pathology of ovarian disease; his observations had reference only to treatment. He had no doubt Mr. Brown was a firm believer in the efficacy of the plan of treatment which he proposed, but so were many other advocates of particular plans; and there were none of those plans which did not number cures; but still they were abandoned; and why? because they seemed only to succeed in the hands of their inventors. Compression has been tried and had failed, even when associated with mercury; but then, says Mr. Brown, my exact combination of means was not employed: this may be so, but I am not sanguine enough to anticipate a different result even when the exact plan, as specified by Mr. Brown, is followed. Dr. Thompson asks whether we can give any account of the patients some years after operation? I fear not. The earlier operations were those of Macdowell, and we have no after history of the cases. The same may be said of those of Lizars, and indeed of most others; the bulk of the cases have been done within a comparatively recent period. Mr. Davies is surprised that any one should cut open the abdomen without finding a tumor; so was he (Mr. Phillips), but nevertheless it is a fact that it has been done. In Mr. Lizars' case it is said a prominent sacrum induced the error; in other cases tympanitis seems to have caused the mistake. Mr. Coulson's question as to age is solved in the paper: the majority of cases have occurred between twenty and forty, but they occur earlier and later. Meyer mentions a case where the disease was congenital. Mr. Key conceives that young subjects have about them something unfavourable to this operation, but the results scarcely bear him out in his opinion. With respect to Mr. Thompson's idea of the necessity of an elevated temperature to ensure success, and to the impossibility of obtaining this in an hospital, it may be observed, that in many successful cases no such attention to temperature appears to have been paid; and in the case of hernia operations this is not regarded as a *sine quâ non*. Besides, even if it be not desirable to operate in a spacious ward or theatre, there are usually to be found small wards in which no difficulty could be experienced in obtaining an elevated temperature. And, somehow or other, it happened, that people were better satisfied to accept an operation established in hospital practice, than one done in obscure corners on which the light of day did not shine.

The President remarked that Dr. Frederick Bird was present, and invited him to address the Society.

Dr. F. Bird would not enter upon the whole question of the operation, but, with reference to the statistics of the author, he must object to his comprising cases where the operation of incision had revealed no tumor, cases where the tumor was incapable of removal, and cases where it had been removed, in one common class. With reference to Mr. Brown's cases, he could assure that gentleman that he had strictly followed his method of treatment in five cases without the least benefit, and in one with apparent disadvantage; that to many competent judges the cases in Mr. Brown's paper were unsatisfactory, except one, in which a sufficient interval had not yet elapsed to justify the cure being regarded as permanent. As, however, the paper had been already read, and the views of treatment discussed at two societies, and the paper itself was now printed, he did not feel authorised in saying more in this Society upon it. With reference to the operation, he himself adopted neither the minor nor the major operation, strictly so called, but one in which the incision was of a medium length, to avoid the evils of irritation from unnecessary manipulation in the very small, and of unnecessary shock to the system by the very

large incision. He knew that many unfavourable cases had been suppressed by the operators. He considered the statistics of the author amply testified the superiority of the minor incision, but questioned the value of any other result derived from them. The high temperature he regarded as prophylactic against peritoneal inflammation, the main danger of the operation.

Mr. Phillips, in answer to Dr. Bird's objection, that in the paper all cases were classed together, whether a tumor were found or not, and extracted or not, rose and said he had heard nothing to induce him to think that course incorrect. If the abdomen had been laid open several times, and no tumor found—and we had the history of five or six such cases—and he was not sure that if we knew all, the number might be twice as many—he was bound to regard that as a thing which might happen again—as one of the evils with which the operation was beset. If again it was true that contrary to the impression at starting, in fourteen or fifteen cases the operation could not be completed, was it not fair and proper to regard that as another evil which in the present state of our knowledge attaches to the question? Who will now say, then, that, in estimating the value of this plan of treatment, the fair, the honest way of dealing with the question, is not to ascertain, as far as the honest dealing of our professional brethren will enable us to do so, in how many instances the operation has been undertaken, and in how many instances it has been successful?

UNIVERSITY COLLEGE HOSPITAL.

CLINICAL PRIZE REPORTS,

By H. Fearnside, M.B.

Case I.—*Cancer of the pylorus—Dilatation of the stomach—Cancer of the peritoneum and ovaries—Ascites—Atrophy of the heart, liver, and spleen—Degenerated tuberculous matter in the apices of the lungs.*

Ann Butler, æt. 50, admitted into University College Hospital, under Dr. Taylor, April 25, 1843. A woman of moderate stature, and rather slender conformation; she was never very robust, and has been especially delicate since she began to have a family; when young, she was occupied as a domestic servant, but for several years past her employment has been that of a charwoman. She has resided in London for thirty years, and during the greater part of this period in a rather densely inhabited and damp situation. For some time past she has been compelled by the circumstances of her family to undergo considerable privations, having often been able to obtain but a scanty supply of food; and from the same cause she has been obliged to exert herself much more than formerly: this has been the case principally during the last two years. Her father died of consumption; her mother in childbed. She is married, has had five children, and has miscarried four times: as a consequence of these latter occurrences, she was much debilitated for a considerable time; but, with these exceptions, although never strong, she appears to have generally enjoyed a tolerable amount of health. She has never since her childhood suffered from any acute disease; but during the last two years her strength has been failing, and she has experienced many of the common symptoms of dyspepsia, such as flatulence, variable appetite, and a sense of weight and oppression in the region of the stomach after taking food. About four months ago, after a hard day's work, or unusual exposure to cold, &c. she began to suffer from severe pain in the limbs, which was not, however, accompanied by any swelling or redness of the joints, heat of skin, or other febrile symptoms. She was attacked with pain in the upper part of the abdomen, and especially around the umbilicus, about a month ago, having continued to attend to her occupations until this time: her bowels became constipated; she had pain in the head, and a feeling of great prostration of strength: these symptoms supervened after being employed for a day in a damp room, and were succeeded in a few hours by vomiting. The constipation was removed for the time by repeated doses of purgative medicines, but the bowels have since again become exceedingly torpid; the vomiting has continued almost uninterruptedly to the present time, generally occurring about three or four hours after a meal; sometimes, however, she has not vomited until near the close of the day, and her stomach has then rejected food taken at various times during the day, and generally but little changed; she has also frequently vomited a dark brown fluid. About three weeks ago her abdomen rather suddenly began to enlarge, and this was attended with an increase of the pain around the umbilicus; it had been preceded by a diminution in the quantity of urine voided daily, as well as by constipation; and after the removal of the latter state it became less considerable, but it has continued in a greater or less degree up to the present time. She has failed much both in flesh and strength during the last month, but she has not lost her appetite in a proportionate degree.

Symptoms on admission.—The surface is moderately warm, and the hands moist, but the extremities are generally cold; there is no œdema of any part. The complexion is

of a somewhat dingy sallow hue; the cheeks are hollow; the eyes large and projecting; there is great prostration of strength, so that she is unable to stand unsupported; she has no pain in the head, but feels giddy on sitting up; she obtains but little sleep. She has no pain about the chest, cough, or dyspnœa; her breathing is tranquil, and the number of respirations 16 per minute.

Physical signs.—There is no difference in the movements of the two sides of the chest, nor in the vocal fremitus; the right post-clavicular fossa is less resonant on percussion than the left one, the sounds elicited on both sides being less clear than in health; the upper and anterior part of the right side of the chest is duller than the corresponding part of the opposite side, the difference being more obvious on percussion over the second rib than immediately below the clavicle. The lateral surfaces of the chest give out a clear sound on percussion; posteriorly there is marked dulness on percussion over the supra-spinous fossa of the right side, that of the left side being less resonant than natural. The same defect of pulmonary resonance is observed over the right lower scapular region; there is but little difference between the two sides on percussion over the inter-scapular regions; inferiorly, both sides sound nearly alike, and clearer than the upper parts of the chest. The breath-sound in expiration is more audible over the upper and anterior part of the right side of the chest than in health; the respiratory murmur is feebler about the second rib on the right side than on the corresponding part of the left side; over the right supra-spinous fossa respiration is feeble, and weaker than upon the left side; over the lower scapular regions respiration is also feeble, and on the right side occasionally bronchial; below the scapulæ the respiration is loud and distinct on both sides. The sounds of the heart are faint; pulse 80, rather jerking, but compressible.

The tongue is rather red at the tip, and some papillæ on its margins are florid and elevated; posteriorly it is covered with a pale thin fur. She complains of a constant saltish taste in the mouth; she has no thirst, and not much appetite; the vomiting still continues, and occurs generally three or four hours after taking food; the fluid portion of the ejected matters has a chocolate-like colour, and a strongly acid reaction. There is considerable tenderness on pressure over the epigastric region, especially towards its right side, but no tumor can be distinctly recognised; she can take hot food or liquids without any uneasiness; the bowels are open.

The abdomen is considerably enlarged, especially in its upper part; the swelling is of a somewhat globular form, and terminates very abruptly a little below the umbilicus, and in a line inclining from this point towards the right iliac region. The sound on percussion over the anterior part of the abdomen, as the patient lies upon her back, is tympanitic, but over the flanks there is decided dulness, which, however, disappears in a great measure on firmly pressing the percussed finger against the abdominal walls. When the patient lies upon one side the sound on percussion over the opposite side is then clear, whilst over the most depending parts it is dull: moreover, fluctuation is distinctly perceptible to the hand.

The liver does not extend for the space of an inch below the margin of the ribs, nor does it appear to rise into the chest (as indicated by percussion) beyond the lower border of the sixth rib. The urine is scanty, slightly acid, sp. gr. 1026, and it appears to contain a slight excess of the phosphates. The catamenia have not been present for the last four months.

Treatment and subsequent progress of the case.—Small doses of hydrocyanic acid, and of the tincture of the sesquichloride of iron, were prescribed to allay the vomiting; and as the patient complained of inability to sleep, a quarter of a grain of hydrochlorate of morphia was directed to be taken every night. A small dose of castor oil was given soon after the patient's admission, and subsequently repeated as circumstances required. Her diet at first consisted principally of arrow root, but, on account of her great debility, she was afterwards allowed animal food and wine. Under this treatment the vomiting completely ceased in about five days, and the tongue became clean; she slept better, the enlargement of the abdomen diminished, and the pulse acquired more power. This apparent improvement was interrupted on May 3d, by a return of the vomiting, and the fluid ejected from the stomach was described as being of a blackish colour. For some days after this time, the most prominent feature in the case was the great prostration of strength which existed. On May 8th, she suffered much from pain in the upper part of the abdomen; this was relieved by a dose of morphia and warm fomentations. She continued gradually sinking from this time. The pulse was usually about 60 per minute, and the number of respirations 12 or 14. She complained frequently of a sense of coldness; she was frequently affected with giddiness,—and as it was supposed that this might be referrible to the morphia, that remedy was discontinued; she had no return of the vomiting until immediately before her death, which took place on May 16th; and she only suffered occasionally from pain in the abdomen, which was rarely acute and

lancinating, but more generally of a dull, heavy character.

Examination of the body 26 *hours after death.—Exterior:* The body was extremely emaciated; there were a number of spots of purpura upon the lower part of the front of the thorax, and anterior parts of the thighs.

Head. — The membranes of the brain appeared healthy; there was rather more serum than usual beneath them; the substance of the brain was uniformly soft and pale, and contained less fluid than usual. Weight of the brain, 2lb. 11½oz.

Chest. — There were a few ounces of bloody serum in each pleural sac; there were a few slight adhesions between the costal and pulmonary pleura, over the apex of the left lung. The lungs generally were of the full size, dark coloured, and mottled over with black spots. The apex of the *left lung* was indurated, rather puckered, and contained some soft cretaceous, or putty-like matter: the pulmonary tissue in the vicinity of this part was dark coloured, dry, and dense. The substance of the upper lobe of the lung was throughout dark coloured; it contained but little fluid, and was less crepitating than usual. The posterior part of the lower lobe was uniformly dark coloured externally; the tissue of this part was dense, contained a considerable quantity of serosity, and not much air, and did not readily give way to pressure. Weight of the lung 13 oz.

The *right lung* was rather paler than the left one; its substance was more puckered and corrugated than the corresponding part of the opposite lung; there was a small cavity about an inch below the apex (corresponding to the principal seat of dulness on percussion during life), lined by a yet distinct membrane, and containing putty-like matter. The greater part of the upper lobe contained but little fluid, and resembled the upper lobe of the left lung. The lower lobe was posteriorly of a dark colour, dense, and contained much serosity. The mucous membrane of the bronchial tubes in both lungs was rather pale. Weight of the lung 14 oz.

The *heart* was small, weighing only 4 oz.; its vertical measurement, in particular, appeared short; there was a white patch on the right ventricle, and another on the apex of the left ventricle; the tissue of the latter part was dry, and of a brown colour; its walls measured seven lines in thickness at the base; its cavity was small, and the lining membrane healthy; the aortic valves slightly thickened. The walls of the right ventricle were about a line and a half in thickness at the base; the tricuspid orifice was large, its valves healthy. The lining membrane of the aorta was raised by an opaque yellow deposit beneath it, some portions of which were osseous. The blood contained in the cavities of the heart was thin, dark coloured, and fluid.

Abdomen.—The *stomach* was much enlarged, being at least three times its natural size; it extended across the upper part of the abdomen, from above downwards, and from left to right: its longest diameter measured twelve inches: it contained much undigested food, and in its contents were a number of fruit stones; its coats were pale. Near the pylorus the mucous membrane was mamillated; and beneath it, at one part, there was a quantity of gelatinous matter. The muscular coat at the pylorus was about a line in thickness, and external to it there was a quantity of dense, whitish, semi-transparent tissue, surrounding and constricting the pyloric aperture; so that the point of the little finger could with difficulty be introduced into it. No milky fluid could be expressed from the adventitious deposit; but subsequent microscopic examination proved it to be distinctly scirrhous. The mucous membrane was ulcerated at one small spot only.

The *duodenum* was enlarged, equalling in volume the large intestine; its coats were rather thickened; the lining membrane somewhat discoloured, being of a greenish hue, which, however, readily disappeared under slight friction. The calibre of the other small intestines was diminished, and the mucous membrane generally pale. The large intestines were less capacious than usual; the mucous membrane of the colon was soft; the mesenteric glands were not enlarged.

The *peritoneum* generally, both parietal and omental, was studded over with small semi-transparent granular prominences, of about the size of pins' heads; their nature was afterwards determined, by microscopic examination, as scirrhous. The peritoneal sac contained two or three pints of yellowish serum.

The *liver* was small, its antero-posterior diameter measuring only five inches; it was of a uniform dark colour, and in a state of incipient cirrhosis. The portal canals in many parts were surrounded by a considerable quantity of dense cellular tissue. The gall bladder was of ordinary size, and contained some thin yellow bile. Weight of the liver 2lb. 4½oz.

The *spleen* was exceedingly small and firm; weight 1 oz. The *pancreas* was healthy.

The *right kidney* appeared large; its capsule was thickened, and rather firmly adherent to the parenchyma of the organ, portions of which were removed on separating the capsule. The surface of the kidney was dark coloured; its tissue was firm. Weight 4 oz.

The capsule of the *left kidney* was less

firmly adherent than that of the right one; the substance of the organ was very firm. Weight 3 oz.

The *ovaries* were much enlarged, corrugated, and hard. On a section being made the cut surfaces presented a dull white appearance; a number of vascular points were also perceptible.

The *os uteri* was roughened, little projections of the size of pins' heads existing upon it; it was dark coloured, but not ulcerated. A considerable quantity of white adventitious matter existed in the walls of the uterus.

Remarks.—The disease in this case was evidently of a serious character, and of some duration; the emaciation present was such as is not witnessed in acute diseases, and its extreme degree was in itself a reason for suspecting the existence of some disease of the digestive organs, and especially of the stomach. That the disease was a chronic one, was proved by the history of the case, as well as by the absence of any febrile symptoms.

The existence of vomiting was an additional reason for supposing that the stomach was the organ implicated; and the occurrence of this symptom regularly, for a considerable time, at a period of some hours after the food had been taken, appeared to point out that the outlet of the organ was the part (principally, at any rate) attacked. Another circumstance confirming the same view was the fact of vomiting sometimes taking place in the evening,—the ejecta then consisting of food taken at different times during the day.

Again, the characters of the matter vomited,—the almost unaltered food, and the dark-brown strongly acid fluid, served to give strength to the opinion that there was some severe organic disease of the stomach. But there was an absence of any perfectly characteristic signs; the existence of any tumor in the epigastric region was never satisfactorily determined. All the symptoms present might occur equally in a case of chronic gastritis with ulceration, or in one of carcinoma of the stomach. In the absence of any perceptible tumor, M. Andral states that "there exists no sign by which we are able to distinguish, what we designate, in common medical language, a cancer of the stomach, from a case of chronic gastritis."

The somewhat sallow hue of the patient's complexion, her age, the nature of what appeared to be the cause of the disease, (excessive exertion, a defective supply of food, and anxiety of mind), were in favour of the opinion that the disease of the stomach was cancerous.

In addition to the gastric lesion, there was also an accumulation of fluid in the peritoneal sac. On first examining the case, Dr. Taylor stated that the symptoms might be owing to cirrhosis of the liver, which was evidently below the average size; or, supposing the disease of the stomach to be cancer of the pylorus, they might be occasioned by the same malignant disease having attacked the peritoneum; a considerable part of the enlargement of the abdomen, however, was obviously due to tympanitic distinsion of some of the hollow viscera. The physical signs derived from an examination of the chest gave evidence of the existence of condensation in the upper parts of both lungs, and of the right one in particular; and the marked dulness on percussion upon the second rib on the right side, showed that the alteration in density was rather below the apex of the lung. Supposing the disease of the stomach to be cancer, and taking into consideration the rarity of the simultaneous existence of cancer and tubercle, it was thought not improbable that the consolidation might be owing to carcinomatous deposit in the lungs.

The earliest *symptoms* presented in this case were simply those of ordinary dyspepsia, *e. g.* a sense of oppression in the epigastric region after taking food, flatulence, &c. No attention seems to have been paid to these symptoms for some time, and the patient's health and strength, although inferior to what they had previously been, and gradually failing, were still equal to a considerable amount of physical exertion, until about a month before her admission into the hospital. About this time she began to suffer from other symptoms of gastric disease; vomiting supervened, and for some time the stomach appears to have rejected almost every meal, but little chyme being allowed to pass the pylorus, the natural consequence of which was great and rapidly produced emaciation. It thus appears probable, that the disease had been going on for some time, without giving rise to any other symptoms than such as are presented in common functional disturbance of the stomach—a circumstance repeatedly observed in other examples of this disease. An opinion has been entertained, that in many at least of such instances, the absence of symptoms might be attributed to the disease being located in the smaller curvature of the stomach, or near the pyloric aperture, thus leaving the larger extremity of the organ free to exercise its peculiar functions. The proper office of the stomach, in reducing the various articles taken as food to a uniform pulp, appeared to be completely suspended in the present case, as they were rejected hours after being swallowed, with their physical characters but little altered.

In the progress of the case the most important symptoms were those indicating the existence of obstruction to the exit of the food from the stomach, which failing in its attempts to expel its contents by the natural outlet, becomes irritated, and vomiting ensues at a longer or shorter period after food has been taken. But the vomiting would appear to be due, not merely to the obstruction presented at the pyloric aperture, but the state of the organ generally. One of the most frequent conditions cooperating with the obstruction in giving rise to vomiting, is probably a state of congestion, or exalted sensibility of the mucous membrane. Such, it is not unreasonable to suppose, existed in the present instance, for, after the use of sedatives for some time, the vomiting ceased, and only returned at occasional and distant intervals.

The *pain* which the patient experienced had but little of the lancinating character usually ascribed to carcinomatous affections of the stomach; it was generally described as a sense of uneasiness, with occasionally a dull, heavy dragging pain in the upper part of the abdomen.

The *state of the tongue* is worthy of a passing remark; it was usually clean, or but slightly furred,—proving the truth of the observation, originally made by Louis and Andral, that the tongue is less an index of the state of the stomach than of the system generally. A symptom from which the patient seemed to experience much annoyance was the constant saline taste in the mouth, as if the excess of acid in the gastric secretion left a proportionately large quantity of alkali to be eliminated by other channels.

[Want of space compels us to defer some of the remarks on this interesting case.—Ed.]

HYDROPATHY—HOMŒOPATHY.

The existence of hydropathic institutions—*those dens of covetous and rapacious gamblers*—where the wretched invalid resorts *to throw the dice for health and life;* the rise and progress of the homœopathic system, *which treats truth with scorn, and bids defiance to common sense*, loudly proclaim the need which exists for the adoption of settled principles, definite methods of research, and a systematic arrangement to guarantee their attainment and retention [in the practice of medicine.]—*Liebig, in Lancet* of June 29th.

BOOKS RECEIVED.

Pathological and Theological Researches on Inflammation of the Nervous Centres. By John Hughes Bennett, M.D. F.R.S.E. &c. &c.

The Plagiarisms of Julius Jeffreys, F.R.S. in his Treatise on the Statics of the Human Chest. By G. Calvert Holland, M.D. &c.

The Retrospect of Practical Medicine and Surgery. By W. Braithwaite, Esq. Vol. X. January to June 1843, with a General Index to the first eight volumes.

A Practical Treatise on Diseases of the Eye. By William Jeaffreson, late Surgeon to the Bombay Eye Infirmary, in the Hon. East India Company's Service, &c. &c.

Fourteenth Annual Report of the Belfast District Asylum for the Insane Poor.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Gentlemen admitted Members on Friday, June 28.—J. Mac Mahon.—B. E. Brodhurst.—P. D. Moffat.—J. K. Lewis.—D. R. Shanahan.—J. H. T. Bailey.—J. Ryan.—W. Priest.—E. Pilkington.—M. P. Foley.

APOTHECARIES' HALL.

Gentlemen who have obtained Certificates, June 27.—F. R. Trumper, Hereford.—J. E. Smyth, London.—C. D. Arnot, Suffolk.—F. J. Freeland, Chichester.

MORTALITY OF THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, June 22.

Dropsy, Cancer, Diseases of Uncertain Seat	87
Diseases of the Brain, Nerves, and Senses..	151
Diseases of Lungs and Organs of Respiration	233
Diseases of the Heart and Blood-vessels	24
Diseases of Stomach, Organs of Digestion,&c.	87
Diseases of the Kidneys, &c.....	1
Childbed.....	7
Paramenia.....	0
Ovarian Dropsy	1
Disease of Uterus, &c.	0
Arthritis.....	0
Rheumatism	4
Diseases of Joints, &c.	3
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.....	0
Old Age or Natural Decay.....	46
Deaths by Violence, Privation, &c.....	48
Small Pox	30
Measles	21
Scarlatina	78
Hooping Cough	22
Croup	10
Thrush	5
Diarrhœa	9
Dysentery	2
Cholera	1
Influenza.....	1
Ague.....	0
Remittent Fever	0
Typhus	36
Erysipelas	8
Syphilis	3
Hydrophobia.....	0
Causes not specified	2
Deaths from all Causes.....	920

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JULY 12, 1844.

APPENDIX TO A PAPER ON THE SPECIAL FUNCTION OF THE SKIN,*

PATHOLOGY OF FEVER; TREATMENT OF SCARLATINA; CAUSES OF ALBUMINURIA.

By Robert Willis, M.D.

M. Fourcault made what may probably be viewed as the most remarkable physiological observation of the age, viz. that an animal, healthy and uninjured, very soon dies if its body be covered with an impervious glaze. Becquerel and Breschet, repeating the experiment of M. Fourcault, discovered that the extinction of life under the circumstances indicated was accompanied by a signal fall of temperature: the animal whose body was endued with an impervious glaze began to lose heat on the instant; and the loss never ceased until life had fled, when the temperature of the internal as well as external parts of the body was found to be within 3° Cent. of that of the external atmosphere, which on the day of the experiment indicated 17° C.

Neither M. Fourcault, nor MM. Becquerel and Breschet, offered any explanation of the remarkable phenomena they observed; these appear, from their silence, to have been altogether enigmatical to them. MM. Becquerel and Breschet only see that the old office of the cutaneous exhalation, as a means of refrigerating the body, was gone. Here was the exhalation completely suppressed, and the temperature of the body, instead of rising, as it ought to have done, began at once to sink, and went on sinking till life was extinct, when it was but three degrees Cent. higher than the temperature of the surrounding atmosphere.

In a paper which I had the honour of submitting to the Royal Society in the month of December, 1842, and which was read before that illustrious body on the 2d of March, 1843, I ventured on an explanation of the phenomena observed by M. Fourcault and MM. Becquerel and Breschet. An abstract of this paper was published in the Proceedings of the Royal Society in the second week in April, 1843. The purport of that paper being physiological, I had not at first intended to do more than hint at the practical application of the views which it embodied. But as a very brief survey in this direction seemed calculated to present these views in the same interesting and important bearing in which they met me, I appended a somewhat long note to supply what I conceived to be a deficiency in my communication.

It is only, indeed, when the function of the skin comes to be regarded as so intimately connected with vital manifestation, as it unquestionably is, that we are enabled to understand wherefore such serious consequences should follow its derangements. Suppressions of the cutaneous exhalation under the agency of cold, is the acknowledged cause of the greater number of the diseases to which the inhabitants of temperate countries are subject. But we have no satisfactory explanation of the way in which cold exerts its pernicious influence, or of the manner in which consequences are here linked with their presumed cause. Without entering into the explanations that have been given of this matter, I shall merely say that in my mode of considering it, he who has suffered a *chill* has had the secreting faculty of his skin deranged or suppressed, and physiologically speaking is brought into the same condition as he would were his body more or less perfectly covered with an impervious varnish. A process indispensable to the continuance of vital action has been interfered with, and disturbance of the general health, commensurate in amount with that of the particular functional disturbance mentioned, forthwith ensues. The injury mentioned in this in-

* Vide Medical Gazette of April 5th, 1844.

stance may possibly partake in its essence of the nature of inflammation. When we have the web of a frog's foot under the microscope, and prick the part with a fine needle, instantly all movement around the injured part is arrested: the blood stagnates in its channels, which dilate visibly, and by and by the several blood-corpuscles run together and form aggregated masses. The explanation of this that has been suggested is simple and satisfactory: the local injury impresses the precipient centres in a way which incapacitates them from transmitting the usual stimulus upon which depends the tone of the living tissues; these are consequently paralysed, upon which follow stasis of the blood in the blood-vessels, and all the consequent phenomena of inflammation. But the influence of cold extensively applied to the cutaneous surface is probably little different from that of other stimuli acknowledged to be efficient causes of inflammation. The effect on the peripheral nerves has a paralyzing influence upon the excito-motory system for its consequence, and connected with this are suspended function, and more local or more general derangement,—in a word, disease. In this way can I render to my own mind a satisfactory account of the influence of cold in the production of disease, not only in all the colder and more temperate, but also in the hotter regions of the earth.

The problem of highest interest in medical science that waits for solution at the present moment, is perhaps this:—*To explain the cause of the unhealthiness of so many tropical climates, and of alluvial and marshy countries generally, where the summer temperature is high.*

A particular specific contagion, designated *miasm* or *malaria*, it is familiarly known, has been imagined and is very commonly admitted as a means of accounting for the deadly fevers in especial which there prevail. But after a very careful study of the subject, I am bound to say that I entirely concur with those who, from their experience in tropical climates, have felt themselves authorized to deny the existence of any specific contagion or miasm, the product of vegetable matters in a state of decay under the combined influence of heat and moisture. As chemists, we are perfectly familiar with the products of the decomposition of vegetable substances under such circumstances, and as physiologists with the effects of the gases then evolved upon the animal economy, which certainly bear no resemblance to the phenomena of remittent and intermittent fever. According to my ideas, marsh, miasm, and malaria, are nothing more nor less than *moist warm air,—air, excessively moist considered in connexion with its own temperature, and the temperature of the human body.*

It is comparatively easy, as is well known, to remain for a certain time in a stove-room of a temperature considerably higher than the body, *if the air be dry.* Here there is free elimination of watery vapour by the sudoriparous glands, and even as rapid solution of it by the parching air. The capillary arteries then exude, and the veins imbibe with great rapidity, so that the nutritive or vital acts are even performed with a kind of increased energy. They are so performed, however, only for a short time: excitement soon begets exhaustion, the body rises in temperature, and death is the necessary consequence of protracted continuance in the circumstances indicated.

The consequence is the same, but the way in which it is brought about is different, when *the air of the stove-room is moist.* M. Delaroche, in his second set of experiments, in which moist instead of dry air was employed, ascertained that temperatures a degree or two Centigrade short of those, or just equal to those, of the animals which were the subjects of experiment, were felt as more speedily detrimental, and then fatal, than the excessively high temperatures with dry air, which he had already approved. Wherefore this should be the case will be readily understood in connection with the views which I have taken of the function of the skin. In a hot, dry atmosphere, animals perish from the effects of excitement; in a warm, most air, of a temperature no higher than that of their own bodies, they die as they do when covered with an impervious glaze—the conditions requisite to the access of oxidized plasma, and the removal of deoxidized plasma, are wanting, and life ceases as a matter of course.

Now it is highly interesting to observe that the air of unhealthy intertropical climates differs little from that of a vapour-bath at between 80° and 90° Fahr. The dew-point of the atmosphere in these countries appears, in general, to be not more than four or five degrees, and frequently not more than a single degree, Fahrenheit, below the temperature of the ambient air. Were the temperature between 90° and 100° Fahr., and the dew-point in the same proportion high, man could not by his nature continue to exist for more than a very few hours. In a country having a high mean temperature, say of about 80° F., and an atmosphere that is close upon the point of saturation with humidity, which is precisely what obtains on the western coast of Africa, to quote a single instance, man is evidently on the verge of circumstances that are even incompatible with his existence*. He has

* The best and most complete set of meteorological observations on the atmosphere of the Coast of Africa, with which I am acquainted, are those appended to Dr. Pritchett's account of the

but to be exposed to fatigue and the burning rays of the sun to be actually brought into such circumstances. The surrounding atmosphere cannot take up the watery vapour, which is then presented to it in large quantity by the sudoriparous glands, with sufficient rapidity to meet the wants of the system in its state of excitement, and requiring the freest access of the most thoroughly oxygenated plasma to keep up movement and life in its several constituent atoms. Great general derangement—*Fever*—ensues, and life is almost of necessity the forfeit.

I have no doubt but that the simple excitement which follows exposure to the sun's heat, in connection with the humidity of the atmosphere, will be found to explain what has been spoken of by writers on the diseases of tropical countries under the title of *solar influence*, by which they understand a certain mysterious and maleficent power emanating from the sun, and distinct from his light and heat. With the view which has just been given of the function of the skin, all that was mysterious and unintelligible in the doctrines of malaria and solar influence disappears, or merges into what is perfectly natural and comprehensible.

The *lunar influence*, in like manner—for some have thought that there was a peculiar maleficent influence in the moon as well as in the sun—will come to be nothing more than the effects of the relatively increased moistness of the air which follows the fall in the temperature of the night season: the air loses several degrees of heat, and in the same, or nearly the same proportion, it gains in degrees of moistness; growing relatively to its temperature more and more humid, it is soon in the state in which it can not only dissolve no more watery vapour, but in which it begins to deposit what is already held in solution: hence the heavy dews of unhealthy intertropical climates, and of marshy temperate countries generally, and the deleterious effects which exposure to the night air produces upon the frame of man. The rapidity with which moist air even of 68° or 70° F. abstracts heat from the body, must also be taken into the account. It is very easy to have a decided chill as the first element in the derangement, *i. e.* in the fever, which is so apt to ensue under such circumstances. And then, if the remarkable fact, first ascertained by that admirable observer, Dr. Davy, be added, that under fatigue the temperature of the body actually *falls*,—it does not rise, as the sensations seem to indicate,—it strikes me that we are no longer under the necessity of recurring to any unknown and hypothetical agent as the cause of the diseases which arise under exposure to atmospherical inclemencies, whether of heat or cold, especially when the exposure is conjoined with fatigue. On setting out on a journey in the Island of Ceylon, Dr. Davy ascertained the mean temperature of his palanqueen bearers to be 98·9° Fahr. under the tongue; on calling a halt at different times as he proceeded, he found it successively 98·6° and 98·5°; doubtless, had he pushed these men beyond their powers, their temperature would have fallen still lower, and, in all likelihood, he would have had them down in fever. Dr. Davy himself observes, in connection with this subject, on the instances of sudden death that have occurred from drinking cold water, or from plunging into cold water after exhausting fatigue, and when the body is commonly said to be heated. Probably, in such cases, in conformity with the above observations, the temperature of the body had been actually reduced below its natural standard, and the fatal effect may be the consequence. This, in fact, was the view that was taken by Currie, who, in his Reports, has collected many examples of the kind, and amongst them has quoted that interesting and impressive catastrophe which befel the army of Alexander the Great on the banks of the river Oxus, where, according to Quintus Curtius, the loss of life was actually greater than had been experienced in any single battle. The circumstances of the case were—a forced march of forty-six miles, in hot weather, over a desert; excessive thirst and exhaustion, and in this state drinking large draughts of cold water*.

The importance of the state of the skin in different diseases, in connection with their tendency, is well known to practitioners. What surgeon does not feel confident that his patient is going on favourably, after even the severest operation, if his skin but continue soft and velvety? and it is the same in almost all diseases. Some diseases I am inclined to think even prove fatal by inducing total suppression of the cutaneous exhalation; among the number, Scarlatina. Speaking generally, we may distinguish two fatal forms of this hitherto uncontrollable disease; one, in which the throat is very seriously implicated, and in which almost from the beginning typhoid symptoms are engrafted upon the originally frank inflammatory type of the disease. In this form

remittent fever which occurred during the late Niger expedition. The tables are full and extremely valuable; they not only show the state of the atmosphere in reference to temperature and moisture at three different hours of every day, for more than a year—May 1841 to June 1842—but even give hourly observations during an entire day at six different dates. Dr. Pritchett's work is not only highly creditable to him as a zealous physician, but as an excellent general observer.

* Vide Dr. Davy's Researches, Anatomical and Physiological, vol. i. p. 199.

the disease tends to destroy life less rapidly; it will run on for a fortnight or three weeks, and prove fatal at last by exhaustion, or the patient may make a slow recovery. The other form is that in which the disease exhibits itself with its usual acuteness—smart pain of the throat, great heat of surface, a very rapid pulse, but in which, from about the time when the disease attains its status, the patient begins to be drowsy; this drowsiness continues, increases; the pulse shrinks in size, but augments in frequency, till it can no longer be counted; the patient can be roused by shaking him or speaking loudly into his ear, but he immediately relapses into his lethargic state; alarm is taken; stimulants of all kinds—ammonia, ether, brandy—are had recourse to, to endeavour to keep up the flagging powers of life, but all in vain; the efflorescence assumes a dusky hue; the patient sinks lower and lower; he becomes thoroughly comatose, and cannot be roused; he has a slight convulsive attack, and expires. This is the form of scarlatina which occasionally proves so awfully fatal; against which medical art seems unavailing,—which sweeps off three, four, and even five members of the same family in the course of as many days, and, perchance, leaves the house childless, that, but a week before, seemed secure in its prospects of heirship and succession.

On making post-mortem examinations of the bodies of those who have fallen victims to this acute form of scarlatina, little or nothing is found amiss: the efflorescence has faded from the surface, some little suffusion of the mucous membrane of the fauces, some congestion of the brain, and a very small quantity of fluid in its ventricles—such is the catalogue of necroscopic appearances.

I have myself had more than one distressing opportunity of watching the disease destroy life in the way just mentioned; and it was only after having proved the usual practice in such circumstances nugatory, and having had my attention particularly directed to the physiology of the skin, that I was led to refer the fatal tendency of acute scarlatina, in its earliest stages, to suppression of the cutaneous exhalation, and, instead of resorting to stimulants to support the powers of life under this depression and drowsiness, to bend all my efforts to restore the function of the skin.

The means of accomplishing this are various. I have found a full emetic dose of ipecacuanha and tartrate of antimony suffice to interrupt the disposition to coma, which was effectually prevented from recurring afterwards by the ordinary diaphoretic mixture of acetate of ammonia and camphor julep, with fifteen or twenty minims of the antimonial wine, repeated at intervals. A case that looks threatening as the disease is acquiring its status will often be rendered manageable and even mild by this simple means. Another very important measure is the reduction of the superficial temperature. The patient should be kept covered with a sheet, and have a sponge, dipped in tepid water, passed over every part of his body by the hour together, until the thermometer both in the axilla and mouth from 106° or 108° Fahr. has been brought down to 99° or 100° Fahr. This is the test that the application has been carried far enough and has been effectual. It was simply by reducing temperature and restoring the office of the skin, that the affusion of cold water, as recommended by Dr. Currie, cut short, or rather rendered safe and manageable, the acute forms of scarlatina in which he counselled it. This useful means, from its application not having been understood, has fallen into discredit with the regular practitioner. It might certainly be restored with advantage in many cases.

I am far, however, from maintaining that the means thus far indicated are the only means that would be indicated in every case of febrile disease. The first element in fever is perhaps even more commonly depression than excitement; it is pure excitement, the consequence of the inoculation of a specific morbid person, in scarlatina; in intermittent and continued fever I believe it always to be depression; so that the means of restoring the balance would be not the farther abstraction, but the addition of stimulus.

In a conversation which I had last summer with Mr. W. F. Daniell, who had at that time had ample experience in the diseases of Western Africa, and who is at this moment prosecuting his researches in that deadly country, he informed me that his conclusions from actual observation tallied exactly with my physiological inductions as to the cause and nature of the fever of intertropical countries. In a letter which he addressed to me on the 27th Sept. 1843, on the eve of his departure for Cape Coast Castle, and speaking of his purpose of publishing on the Diseases of Western Africa, he says: "I have stated the proximate cause of most African fevers to depend on *an impaired or deranged condition of the vital functions of the skin*, a definition which I imagine will be in conformity with your own views on the subject." It is always highly gratifying to find physiological inferences supported and borne out by practical observations, and I own that I look forward with much solicitude to Mr. Daniell's return to this country, and to the appearance of his work. Upon this occasion, I spoke to Mr. Daniell of a hot air bath as the likeliest means of cutting short a threatened attack of intermittent or remittent fever. He informed me that by directing

all his attention to the state of the skin he had been eminently successful in the treatment of the African remittent. Dr. Pritchett also observed that patients in the Niger expedition did best when they were kept somewhat warmly covered; sponging with cold water, and exposure, were always followed by dryness or parching of the skin, when the patients became uneasy and nervous.

[Since the preceding observations were written, M. Fourcault has still farther pursued his curious researches on the influence of the cutaneous envelope of the body and its function, which all tend to confirm and extend the conclusions come to: on covering the skin of a healthy animal with an impervious glaze, M. Fourcault finds that *albuminuria* is an invariable consequence in the dog, and a very frequent one in the rabbit. But the conclusions are so curious that they deserve to be made the subject of a special notice.]

REPORT
ON THE
ROYAL MATERNITY CHARITY.

By F. H. Ramsbotham, M.D.

(For the London Medical Gazette.)

[Continued from p. 464.]

During the year 1842, there were delivered in the Eastern District of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham,—

2090 *women—Of which cases,*

20 were twins—one in every 104½ cases: of these in 10 both heads presented; in 8 the presentation was head and breech, or some part of the inferior extremities; and in 2 both were breech or inferior extremitities. In 7 of these cases both children were boys; in 2 both girls; and in 11 of different sexes.

1076 children were males.

1034 children were females.

2068 were presentations of some part of the head, of which 4 were face presentations—one in 527¼ births.

40 were presentations of the breech, or some part of the lower extremities—about one in every 52¾ births; of these 12 were twins.

2 were transverse presentations, at full time; one in 1054½ births. One of these children had lain dead in utero for three weeks; it was very putrid, and although a large child, was expelled doubled, or by what is called "the spontaneous evolution." It was a presentation of the right side, about mid-space between the axilla and the hip; the ribs being the part first touched by the finger. To the other case I was called on the 8th day after the membranes had broken. The left arm was external and much swollen, the head was high towards the right side, the face looking towards the spine, and the neck over the pelvic brim. Attempts had been made by the district surgeon to deliver by "turning," which had failed. The uterus was very strongly contracted, and the cuticle peeling off the child's body: the chest was too high to be perforated: I therefore passed my father's hook around the neck, and separated the head from the body without any difficulty. This was the woman's third child. I had delivered her by the same operation, after having exviscerated the fœtus, a year before. Both the women did well.

In 4 cases the placenta was implanted entirely over the os uteri—one in every 522½ cases. All these women were delivered by "turning;" all of the children were born still; one was putrid. Two of the women died of the effects of the hæmorrhage; one in two hours, the other on the sixth day.

11 were complicated with alarming hæmorrhage before delivery, not the result of placental presentation—one in every 190 cases. One of these was a case of premature twins; the woman had suffered a severe accident; another also arose from an accident at full time; three other cases were premature. Three only of these children were born living: in one case the placenta was adherent: in most the flooding was either stopped or much moderated by the artificial rupture of the membranes. All the women did well but one, who had lost an excessive quantity of blood suddenly; the child was turned; it was born dead, and the woman never rallied.

In 9 the placenta was retained within the uterus, either by atony or irregular contraction of the uterine fibres, or by morbid adhesion between the uterine and placental surfaces, requiring the introduction of the hand for its removal—about one in every 232 cases. One was a breech case at 6 months. One woman died of irritative fever at the end of five weeks. The others did well.

3 were complicated with alarming hæmorrhage after the natural expulsion of the placenta—about one in every 697 cases. One was a case of twins. One woman died in four hours; she was 8 months advanced: she was suddenly frightened on the morning of the day on which she was delivered, and fainted: she did not feel the child after; labour came on immediately; the child was born dead; the uterus relaxed after it had expelled the child, and in spite of all the means used to induce contraction, remained flaccid till her death.

In 3 craniotomy was performed—about one in every 697 cases. In all these cases the pelvis was much distorted. The women all recovered.

1 was delivered by the short forceps; the child was dead. The woman recovered.

In 1 premature labour was induced solely by the use of the ergot. She was delivered in 20 hours after she began the medicine; the child was born alive, and was living in last May, a strong and hearty girl.

1 was complicated with puerperal convulsions, which came on while the head was pressing on the perineum; the child was expelled naturally, alive; she had one before its birth, and two after; she was much relieved by bleeding and purging, and did well. It was a primary labour.

1 was complicated with a ruptured uterus. It was the woman's 12th child; the feet presented; the uterus did not act violently, and I understand that no force was used in extraction; the child was dead, and the woman survived the birth only three hours. I did not see her.

1 was complicated with a longitudinal laceration, two inches in length, on the inside of the left labium, which took place as the child was being expelled through the pelvic outlet. I saw her six hours after her labour. The labium was then swollen to a size larger than a closed fist, very painful and livid; the cellular substance was filled with coagulated blood. I removed as much as would fill an ordinary tea-cup; and having satisfied myself that the ruptured vessel had ceased to bleed, ordered a poultice to be applied. On the fourth day the swelling had entirely, and the blackness had almost disappeared, and suppuration had commenced; the cavity closed rapidly, and the part was perfectly healed considerably before the end of the month. The woman suffered very little in her general health.

11 women died either from puerperal causes, or within the puerperal month—one in every 190 casrs; 10 only, however, from the effects of labour, for one died of pneumonia, which supervened on chronic disease of the lungs—being one in every 219 cases.

2041 children were born living.

69 children were born still—about one in every 30 births.

Of the Deaths,

2 were from hæmorrhage under placental presentation; one within two hours, the other on the sixth day.

1 was almost immediately after artificial delivery, under accidental hæmorrhage.

1 was four hours after delivery, from hæmorrhage which came on after the natural expulsion of the placenta.

1 from ruptured uterus, three hours after delivery, under a footling presentation.

1 from peritonitis, on the 7th day after premature delivery.

2 from hysteritis; one a fortnight after delivery, the other on the 10th day. She was as well as could be till the 6th day, when she had a quarrel with a neighbour, and put herself in a violent passion; she was soon seized with inflammatory disease, and lived only four days.

1 from irritative fever, five weeks after delivery, complicated with adherent placenta and hæmorrhage.

1 from sloughing of the vagina, six days after a lingering labour.

1 from pneumonia, which supervened upon chronic disease of the lungs, on the 6th day after delivery.

Of the still-born children,

23 were premature.

9 were putrid, at full time, or nearly so.

3 were breech presentations, at full time, or nearly so.

2 were transverse presentations at full time, or nearly so.

3 were delivered by craniotomy.

1 was delivered by the forceps.

4 were under lingering labour.

4 were delivered under placental presentation.

5 were under violent accidental hæmorrhage, at full time, or nearly so.

1 was under ruptured uterus.

3 were with the funis prolapsed; one by the side of the head; two by the breech: besides these the funis prolapsed by the side of the head in one other case; and the child was born living.

1 was where the funis was three times twisted round the neck.

10 were at full time, not putrid, nor delivered by art; there being no assignable cause to account for these deaths.

ON CERTAIN POINTS IN THE MECHANISM AND PHYSIOLOGY OF THE CIRCULATION OF THE BLOOD.

By George Robinson,
Fellow of the Royal Medical and Chirurgical Society, &c.

(For the London Medical Gazette.)

[Continued from p. 436.]

Part II.—*Of the mechanism of absorption; in which it is attempted to trace that action to the peculiar physical conditions regulating the passage of the blood into, and through, the veins.*

Before mentioning the facts which appear to me calculated to illustrate the mechanism of the opposite function of absorption, it may be well briefly to review one or two of those opinions on the subject which have already been presented to the public.

I have previously had occasion to notice Magendie's general doctrine as to the transmitting power possessed by membranes; and have given some reasons for my disbelief in the sufficiency of that explanation of the various processes of exudation and absorption. The latter function, however, is by the same authority still more explicitly declared to depend upon an affinity of the vascular walls for the substances absorbed*. But while acknowledging the great value of many of the laws regulating animal absorption which have been established by the labours of this eminent physiologist, I cannot perceive that the experiments adduced in support of this particular doctrine do more than prove the porosity of membrane; for they appear mainly intended to shew that the same interchange of fluids which takes place through inorganic porous septa, will, under similar circumstances, also occur through animal membrane. And as this power was by Magendie himself considered as but *one* of the probable causes of vascular absorption*, it still remains to discover what other physical conditions assist in the performance of this function.

There is another view of absorption, which as it, in name at least, bears some resemblance to that which I shall presently advance, requires a moment's examination. I allude to the opinion of the late Sir D. Barry. The experiments of this gentleman prove very satisfactorily, that during each act of inspiration there is a rush of venous blood into the imperfect vacuum then formed within the thoracic cavity. On introducing a long glass tube into the interior of certain large veins, he also found that a coloured liquid, into which the lower end of a glass tube dipped, ascended in the latter to the height of several inches during each inspiration, and fell during the opposite act of expiration.

This ascent of the coloured fluid he conceived to be an act of absorption rendered visible by the glass tube, the lower end of which represented the open mouths of the absorbing vessels†. In observing that the sanguiferous and lymphatic vessels have a similar communication between their extremities and the thorax, he has apparently left out of consideration the yielding walls of the small blood-vessels, and the minuteness of the pores through which absorption occurs. This view of the processs of absorption is moreover sufficiently refuted by one of the author's experiments. Thus he remarks that if the communicating tube be introduced into the femoral vein of a dog or horse, and pushed no further, then the inspiration will produce no effect on the fluid in the cup; *because the relative vacuum in the thorax can be filled from the veins nearer to the chest*‡. This latter remark, and the admission that the operation of this partial vacuum

* Journal de Physiologie, t. i. p. 6.

* "L'affinité des parois vasculaires pour les matières absorbées étant supposée la cause, ou si l'on veut l'une des causes, de l'absorption," &c. Ibid. p. 8.

† Experimental Researches on the Influence of Atmospheric Pressure upon the Blood in the Veins, upon Absorption, &c. By David Bang, M.D. &c. London, 1826.

‡ Ibid. p. 15.

within the thorax does not extend so far as the femoral veins, appear to be quite fatal to this view of absorption. And even if it could be shewn that the expansion of the thorax exerts a *direct* influence on the passage of blood through the smaller veins, the immense disproportion existing between the area of the latter and that of the minute absorbing pores situated in their walls, would necessarily cause that influence to be exercised chiefly on the fluid contained within the larger tubes. His other experiments, in which the application of cupping-glasses over poisoned wounds prevented the action of the poison, cannot, in their physiological bearings, be considered as proving more than that an obstruction to the circulation through a part prevents absorption—a principle which has also been fully established by many other observers. It is now some time since the idea first occurred to me, that the same power of raising from a lower level, and drawing with it an external stagnant fluid, which Venturi found to be possessed by a rapid stream of water, might possibly also be in some measure exercised by the innumerable streams of blood which incessantly traverse the different structures of the animal body. If any analogous force did reside in the latter, then the total absorbing power thus obtained, must, from the number and rapidity of those currents, as seen under the microscope, be very considerable; and this force had certainly not yet entered into the consideration of physiologists. I repeated, with success, Venturi's chief experiment, viz., that of causing the ascent of a stagnant liquid in the long arm of a syphon, the short arm of which communicated with the interior of a pipe traversed by a rapid stream. And I also found the same ascent to occur, though much more slowly, when a membrane was tied over the orifice of the short arm, so that all communication between the interior of the syphon and the stream could only take place through the minute pores of the intervening membrane.

I had proceeded thus far in the inquiry, when circumstances prevented me from pursuing it further at that moment; but in May last, an abstract of my views on this subject, and of the grounds on which they rested, appeared in the Medical Gazette.

Having since then performed a great number of experiments on various points connected with this process, I shall now proceed—

1st, to give a detailed account of some experiments, in which the substitution of yielding and compressible, for rigid tubes, (by assimilating the conditions of the observation to those known to exist in the living body), removes the chief, and, in my opinion, the only valid objection to this explanation of the function in question;

And conclude this part of my communication by endeavouring to elucidate the physical principles on which the action of absorption depends.

Exp. I.—A piece of the descending aorta of a horse, which formed a flexible yielding pipe, nearly cylindrical in shape, 4 inches long, and 1 inch in diameter, was fastened horizontally to the lateral opening of the reservoir. Having previously closed all its collateral branches, with the exception of one, I fitted into the latter the short arm of an arched glass tube, the long arm of which dipped into a vessel containing coloured liquid. The internal orifice of the pipe was somewhat contracted in fastening it to the opening in the reservoir, so that its calibre at this point would be less than that of the rest of the pipe. During the passage of the stream through the latter, the coloured liquid rose in the glass tube, and on increasing the height of the impelling column the vessel containing the coloured liquid was speedily emptied. The outer orifice of the glass tube being then allowed to communicate freely with the external air, the jet issuing from the pipe instantly assumed the pulsating character; at the same time that the entrance of air into its interior caused a gurgling sound.

It now only remained to be shewn that a stream traversing a flaccid membranous tube possesses the same power of absorbing an external stagnant fluid. But the difficulties preventing the successful performance of this experiment were much more considerable than any yet encountered; for the mere weight of the incumbent flaccid walls opposed so much resistance to the passage of fluid through the tube, that a copious exudation occurred through any lateral openings existing in it; and I could only obtain a satisfactory result by carefully observing, and in the per-

formance of the experiment strictly adhering to, the conditions under which the return of venous blood is effected in animals.

The most important of these conditions may be thus stated :—

1. The different converging streams always flow from narrow into wider tubes.

2. Those flaccid porous tubes are placed in a dense medium, the pressure of which on their external surface is much greater than that of the atmosphere; for, in addition to this latter force, we have, in the living body, various other powers, the operation of which greatly increases the pressure acting on the exterior of the blood-vessels; as, for instance, the elasticity and contractility of the skin, the weight and lateral pressure of adjacent parts, muscular action, &c.

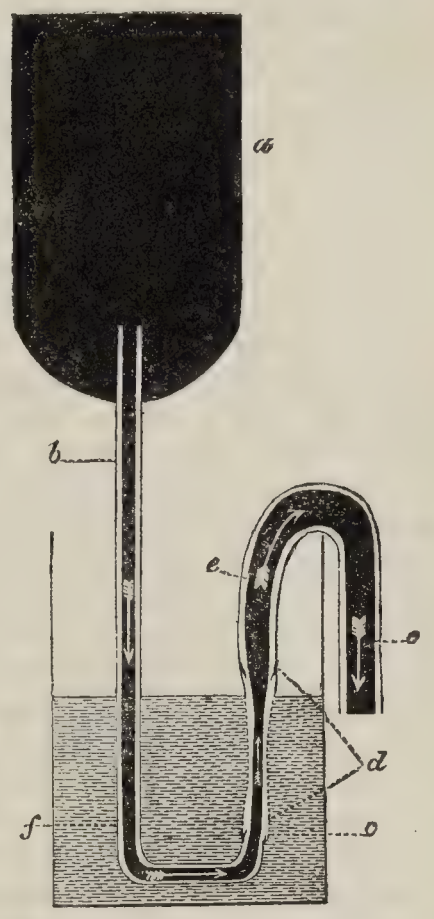
3. The walls of the terminating portion of the large venous trunks are strengthened and rendered comparatively rigid by their adhesion to the diaphragm, pericardium, and pleuræ.

4. The flow of venous blood into its proper receptacle—the right auricle—is facilitated by the diminished pressure existing within the thorax during the act of inspiration.

It would be tedious to enumerate the different failures which I experienced in constructing an apparatus in which all these conditions should be observed. The following arrangement is that which proved most effectual; and the conditions under which the absorbing stream here acted appear to correspond very closely to those affecting the minute currents contained within the veins.

Exp. II.—The œsophagus of an ox, which formed a convenient membranous reservoir, was suspended vertically, and to its lower extremity was fastened a glass tube, fifteen inches long and one-fourth of an inch in diameter, the lower end of which was re-curved, so that its orifice also looked directly upwards. The extent of tube involved in this curve was not above three inches, the length of the ascending portion being one inch. To the orifice of the latter was then fastened a piece of the small intestine of a fowl, which formed a membranous tube two inches long and about one-third of an inch in diameter; the other end of this flaccid tube was then attached to the short arm of a glass syphon one-third of an inch in diameter, the arms of which were respectively an inch and a half, and two inches and a half, long (Fig. 2).

Fig. 2.



a. The membranous reservoir; *b*, the descending portion of the first glass tube; *c*, its ascending portion; *dd*, the membranous tube; *ee*, the glass syphon; *f*, the vessel containing the external coloured liquid.

The lower part of the descending, and the whole of the curved portion of the first glass tube, the entire extent of the membranous tube, and the short arm of the syphon, were then placed in a glass vessel six inches deep, on the rim of which the angle of the syphon rested, so that the orifice of the long arm would discharge its contents on the exterior of the vessel (vide Fig. 2).

I must not omit to mention that the lower half of the membranous tube had been previously punctured with a fine needle, so as to make in it a great number of small lateral openings. This was done with the view of rendering the progress of the experiment more perceptible; for the great length of time required for the passage of an appreciable quantity of fluid through the minute pores of several layers of membrane would otherwise have added materially to the tedious character of the observation. It may also be observed, that this enlargement of the

pores facilitated exudation quite as much as absorption; and in the living body the passage of fluids through the coats of the small blood-vessels is greatly promoted by their extreme tenuity, by the high temperature, and possibly by other favourable conditions.

The apparatus being thus arranged, a measured quantity of liquid was poured into the glass vessel, so as to reach nearly to the commencement of the short arm of the syphon, and a column of water, varying from three to five inches in height, was maintained in the membranous reservoir. It will be seen by a glance at the accompanying diagram that the fluid, after entering the first glass tube, and ascending from its curved portion, would then pass through the membranous tube, and reaching the short arm of the syphon, be finally discharged on the exterior of the vessel containing the stagnant fluid.

During its passage through the membranous tube, the stream was, by means of the lateral openings existing in the latter, enabled to communicate with the external stagnant liquid.

The calibre of the arched portion of the first glass tube had been considerably diminished by the flattening of the tube during the process of bending it; so that the stream escaping from it into the membranous tube was necessarily much less than one-fourth of an inch in diameter. But even this disproportion between the area of the stream entering the membranous tube, and that of the latter, did not prevent a rapid exudation from occurring whenever the height of the column in the reservoir exceeded two or three inches; and the following was the only method which I found effectual in obtaining constant absorption, viz. to grasp the upper end of the first glass tube, where it projected into the membranous reservoir, so as gradually to diminish its area until the stream escaping at the other end of the apparatus became reduced in size to a mere thread. And so long as the area of the stream entering the first glass tube was in this manner limited and regulated according to the height of the impelling column, absorption of the external stagnant fluid surrounding the membranous tube proceeded with tolerable rapidity. Thus in one experiment the quantity of stagnant fluid was in less than ten minutes diminished by three ounces: in another trial, its original quantity of nine fluid ounces was, during the passage of little more than half a pint of water through the apparatus, reduced to 4½ ounces, or one-half. The stagnant fluid was occasionally coloured, and could then be seen to escape with the stream issuing from the syphon. At the commencement of the experiment there was invariably some effusion, until the long arm of the syphon became filled, when the process of absorption began, and, if uninterrupted, would gradually reduce the height of the stagnant fluid from the level of the short arm of the syphon to the junction of the membranous tube with the termination of the first glass tube. When a considerable extent of the membranous tube became in this manner exposed, globules of air also passed through its lateral openings, and escaped with the stream. While absorption was proceeding the membranous tube always became flattened, whereas during the occurrence of effusion it appeared distended, and more cylindrical in shape. In this apparatus the absorbing stream flowed almost directly upwards. In other cases, where the membranous tube was placed horizontally in a long shallow vessel, absorption of the external fluid occurred with the same rapidity so long as the same conditions were observed.

Having, by these experiments, proved that a stream, in passing through a flaccid membranous tube, can exercise an absorbing power, it now remains for me to show that in this rude apparatus there are represented the most important of those conditions which are known to affect the currents of venous blood. And these conditions may be considered in the same order in which they were before mentioned.

1. It is essential to the success of the experiment that the absorbing stream should flow from a narrow to a much wider tube. In this respect there is a marked analogy between the contrivance which repeated failure in these experiments suggested, and that arrangement of the minute veins and the contiguous portion of the capillaries by which the streams of blood traversing this part of the circulating system are made to operate in a precisely similar manner. For at this point innumerable small rapid streams are,

throughout the body, perpetually flowing from the capillaries into the contiguous venous radicles, the calibre of which is much greater than that of the vessels supplying them. At this point, therefore, the conditions are evidently favourable to absorption. And on tracing the course of the veins to their final termination in two or three large trunks, the individual streams are, in the same manner, constantly found to pass from narrow to wider tubes. In the smaller vessels this arrangement is obviously calculated to add to the absorbing power of the contained streams. In the large veins, the walls of which are too thick to be readily permeated by liquids, its chief use is apparently that of economising the impelling force of the vis à tergo, by diminishing friction.

2. The next point to be noticed is the medium in which the membranous tube was placed: and the necessity of a denser medium than atmospheric air was proved by a repeated observation of the fact, that when the membranous tube was unsupported, the whole of the fluid constituting the stream escaped through the lateral openings of the same apparatus which, when immersed in water, not only permitted the stream to traverse it freely, but also enabled the current to carry with it a considerable quantity of the external stagnant fluid. It is difficult to form any estimate of the average amount of pressure acting on the exterior of the blood-vessels of the living body. It must necessarily vary much in different animals, and in different parts of the same body. I have, however, been careful not to employ a greater amount of external pressure in these experiments than might reasonably be supposed to exist in living animals. For in these experiments the force acting on the exterior of the membranous tube never exceeded the weight of a column of water six inches high, while in some cases the height of the external column was only one inch.

3. In imitation of the rigidity of the terminating portion of the large veins, the upper end of the membranous tube was fastened to the short arm of a bent glass tube. But this sudden transition from a flaccid to a perfectly rigid tube occasioned an inconvenience which will, to a certain extent, be avoided in the animal body, in consequence of the change being more gradual.

4. To compensate for the difficulties which a stream encounters in flowing against gravity, it became necessary to use the slight derivative power of a short syphon, and without this contrivance no absorption could be obtained with an ascending stream. As before mentioned, it has been shewn by the experiments of Hales, and more recently by those of Sir D. Barry, that a similar derivative power acts during the expansion of the thorax. This force has been found capable of raising a column of water in a small glass tube to the height of twenty inches.

It might, from this latter circumstance, be imagined that the use of a more powerful syphon in the apparatus would have the effect of increasing the activity of the absorbing process. But I have satisfied myself, by repeated trials, that any material deviation from the above-stated proportions, whether increasing or diminishing the power of the syphon, rather impeded than promoted absorption. For when the derivative power was much increased, the gravitating column of water in the long arm diminished the pressure within the short arm so much, that the contiguous portion of the membranous tube was then forced against the orifice of the latter, so as entirely to close it. And this obstruction to the passage of the stream necessarily caused effusion through the lateral apertures of the membrane.

This inconvenience attending the employment of a more powerful syphon, would, I conceive, be experienced in a minor degree were the change from a flaccid to a rigid tube more gradually effected, as it is in the animal body. And to test the accuracy of this supposition, I repeated some of the former experiments with a more powerful syphon, having previously fastened to its short arm a piece of caoutchouc tubing half an inch long, and over that a membranous tube six inches in length. Although every other condition was the same as before, this slight alteration of the apparatus, by which the stream was made to pass from the membranous into the caoutchouc tube, and then into the glass syphon, facilitated the action of the latter so much, that a very rapid absorption of the ex-

ternal fluid occurred, though the lateral apertures in the membranous tube did not approach within three inches of the termination of the caoutchouc tube.

In explanation of this point, it may also be remarked, that though the derivative power exercised by the act of inspiration arises from the same immediate cause as that by which a syphon acts, viz. diminished pressure within the several recipient cavities, the mode of action of that cause nevertheless differs somewhat in the two instances. For when the long arm of a syphon is once filled, the gravitating column of liquid within it instantly acts with its full power in inducing a tendency to the formation of a vacuum in the portion of tube immediately behind it; whereas, the act of inspiration being a gradual effort, the enlargement of the thorax occupies a perceptible interval of time. And therefore, though the partial vacuum formed within the latter may ultimately be capable of raising a column of water to the height of twenty inches, it by no means follows that the derivative force acting on the contents of the large venous trunks is, *at any one moment*, equal to that of a gravitating column of water of this height. On the contrary, as this imperfect vacuum is continually being removed by the influx of fresh blood into the thorax, it appears tolerably evident that during an ordinary inspiration this derivative force does not at any one time exceed that of a falling column of water of the same area as the large veins, and three or four inches in height. And if the truth of this remark be admitted, there will then be a tolerably close approximation between the derivative force acting in the living body and that exercised by the syphon in these experiments.

As proving that the absorption and discharge of the stagnant fluid did not depend upon the *direct* action of the syphon, I may mention that the syphon acted so long only as the stream continued to flow through the apparatus. For when that flow ceased the membranous tube was pressed against the orifice of the short arm of the syphon so as to close it; and the long arm then speedily became emptied.

In addition to those already mentioned, there is one other condition which, in the animal body, is found to be essential to the proper circulation of the blood, and more particularly to the due performance of the function of absorption: for it has been clearly proved by the experiments of Hales, and by the experience of all practical anatomists, that in general none other than a thick or viscid fluid can pass through the minute blood-vessels without the occurrence of a very copious effusion. And the truth of this observation is also strikingly exemplified in certain phenomena of disease. As to the manner in which this physical property of the blood assists absorption, it does not appear to me that it exercises any other than an indirect action, viz., that of rendering the blood less apt to escape through the pores of its containing vessels: for as a certain amount of lateral pressure is required to overcome the cohesive force of the particles of blood, and as the impeding causes which occasion that lateral pressure are, in the veins, very few in number, and trivial in their character, it is probable that, in a state of perfect health, little or no effusion takes place through the walls of this portion of the circulating system. To render the chain of evidence more complete, I repeated the same experiments with membranous tubes, observing every particular as before, with the single exception of substituting a viscid fluid, viz. common size, for water; and absorption went on quite as well as when the more mobile liquid was used; there being, moreover, this additional advantage, that the progress of the experiment was less liable to be disturbed by effusion during any slight disorder of the apparatus.

The whole of these considerations will, I trust, be deemed sufficient to establish the principle, *that a stream, while traversing a flaccid membranous tube, can, under certain favourable conditions, exercise an absorbing power;* and if the correctness of this statement be admitted, it will not be difficult to reconcile these views with the knowledge already possessed on the subject of the process of absorption in animals; for as it is fully proved that the act of circulation, or, in other words, the passage of the blood through the minute vessels of the part, is essential to the occurrence of absorption, it now only

remains to inquire, 1st, what particular part of the circulating system is the more especial seat of this function, and 2dly, in what manner the passage of external fluids into the blood-vessels is accomplished.

[To be continued.]

CASE OF ENCEPHALOCELE, OR HERNIA CEREBRI.

By W. Lyon, Esq.

Lecturer on Surgery, and lately one of the Surgeons of the Glasgow Royal Infirmary.

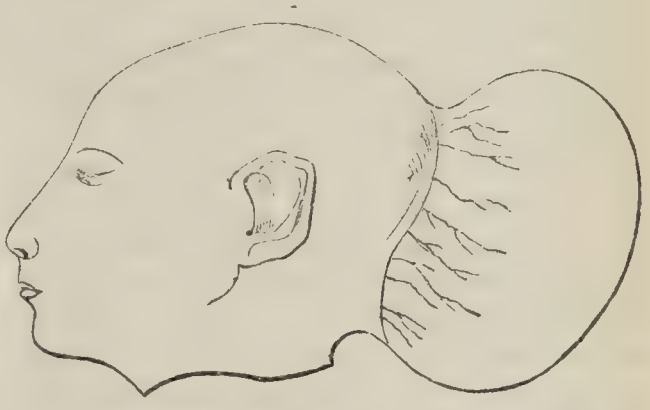
(For the Medical Gazette.)

In the Edinburgh Journal of Medical Science for May 1842, I detailed, and added some observations on, a case of hydrencephalocele, which protruded on the face. I recently met with another instance, nearly similar to this rather rare morbid condition, where the tumor, which was of large size, existed over the occiput; and as it possessed some unusual features I herewith annex an account of it, in the hope that it may prove useful to the surgeon, anatomist, physiologist, and obstetrical practitioner, with each of whose departments it would not be difficult to shew that it had some connection.

March 1st, 1844.—Child of —— W., a male, was born this morning, having been ushered into the world under the auspices of a midwife, who reports the labour to have been very easy and rapid.

Situated over the occiput, *and nearly of the bulk of the head*, being of the size of a large fist, there is an oblong tumor, the upper part of which is level with the crown of the head, the lower margin resting on the nape of the neck, or almost descending between the shoulders when the head is thrown back. It measures 11 inches in its largest circumference, 9 where attached to scalp, 7 from side to side, and 8 over the surface from the superior to the inferior attachment. It feels tense, is livid at some parts, and opaque, but softish and obscurely fluctuating, *and does not pulsate*. The anterior half of the tumor has thin soft hairs scattered over it where not livid, and its surface has a marbled appearance, and is traversed by numerous small tortuous vessels. No abnormal opening can be felt under the attachment of the tumor. The head is of ordinary size, but the forehead is remarkably low and receding, and the facial line much more oblique than usual. The child is of average size, and otherwise well formed; it is weakly, does not suck freely or actively, and cannot be made to cry, although it readily winces when pinched or pricked. The midwife strenuously insisted on the tumor being opened, and said she would have opened it herself before my visit if the parents had not objected.

The forehead was low and receding; but the cranium being nearly of normal size made it unlikely that the tumor, *about as large as the head*, was solely occupied by protruded brain: and the absence of brain was rendered still more probable from pulsation, commonly in such conditions present, not being felt.



There was extensive ecchymosis on the surface of the tumor, in all likelihood in consequence of pressure during its passage through the pelvis: had it not been for the prominence and well-defined form of the tumor, the ecchymosis might have led to the supposition of its being one of those tumors formed during labour by extravasation of blood between one or other of the layers of the scalp.

From not possessing pulsation or transparency, from the fontanelles not being prominent, nor capable of being made so by pressure on the tumor, the connection of its contents with the interior of the cranium or brain was rendered doubtful. The child not being able to cry prevented that assistance in the diagnosis which is obtained from observing whether the tumor becomes distended and tense under the effort of crying—one of the phenomena usually present in cases of congenital protrusions from the cranium. But the want of transparency could be accounted for, like the ecchymosis on its

surface, by pressure during its transit through the pelvis causing extravasation of blood into its interior; and, all things considered, Dr. James Watson, Dr. John Macfarlane, and I, concluded that it had a communication with the brain, and therefore dissuaded the parents from any active interference. Gentle compression, by an elastic cap, was tried; but it was difficult to keep the cap adjusted so as to be effective, and it was therefore soon abandoned. Our conclusion in regard to the probable communication between the tumor and the interior of the cranium was rendered positive in a few days; for the tumor becoming flaccid, by pushing the finger upwards from the middle of the inferior attachment, the edge of an opening into the cranium could be nearly unequivocally felt.

The child soon refused to suck, daily lost flesh and strength, lay constantly in a partially comatose state for eight or ten days, could with difficulty be made to swallow, and died on April 1st, exactly one month after its birth.

Examination of the head. — The parietes of the tumor were formed by the scalp, pericranium, and dura mater; the cyst contained about three ounces of sanguinolent serum. Portions of the posterior lobes of the cerebrum, about the bulk of a small apple, covered by the arachnoid and pia mater, and having a film of serum intervening between them and the dura mater, projected into the cyst, through an opening the size of the point of the finger, at the inferior and middle part of the occipital bone.

This opening had rounded edges, and was situated immediately above the tentorium, which was incomplete. The opening was bounded above by the termination of the longitudinal sinus, at the sides by the lateral sinuses, and below by the imperfect tentorium.

The portion of brain which projected into the tumor was compressed where it passed through the opening, and bulged out to the size of a small apple in the interior of the cyst. There was no fluid below the membranes within the cranium, nor in the ventricles. The brain was of healthy consistence and colour. The body was not allowed to be examined.

The appearances on dissection explained why the signs of hydrencephalocele were not present in this instance; and it may be of some practical importance to be aware that a diseased state nearly similar may exist, while the signs usually considered to characterize hydrencephalocele, or hernia cerebri, are absent.

The portion of cerebrum contained in the cyst accounted for the small receding forehead.

I have already explained why the tumor did not possess transparency. The absence of pulsation, and incapability of causing prominence of the fontanelles by pressing the tumor, are easily accounted for by the opening between the interior of the cranium and the cyst being so impacted with brain as to prevent free passage of the serum, or free circulation in the vessels of the protruded portion of cerebrum. The weakness of the child, its inability to suck or to cry, and the comatose state in which it lay, in all probability arose from the partial strangulation which the portion of brain suffered from the edges of the opening through which it passed.

Strictly speaking, therefore, this should be called a congenital hernia of the brain: allowing for difference of parts, the conditions were exactly like those in protrusions from the abdomen, and were probably produced in a similar manner. There was the opening, abnormal here, the protrusion, the serosanguinolent fluid, and the sac: from interrupted osseous development there had been diminished resistance at a part of the occipital bone; or there may have been hypertrophy of brain. From one or other of these causes, the cerebrum, covered by its membranes, protruded; pressure on the protruded membranes by the edges of the opening occasioned transudation, separation of the dura mater, and thus formation of the sac.

The case affords an additional proof of the vagueness of the diagnosis in cases of this kind, explains some of the causes of the varying characters which cases of this disease present, and its detail may, I hope, prove useful to the profession.

There is an account of a case closely resembling the above in Collins's Practical Treatise on Midwifery, page 511. The tumor was nearly as large as the head; it burst two hours after birth, and the child died eight hours afterwards. The ventricles in this case

communicated with the sac; the opening in the occiput was three-eighths of an inch in diameter, and was situated half an inch behind the foramen magnum.

In the MEDICAL GAZETTE for the 5th of April last, there is a description of a "bicephalous monstrosity," which I have a strong conviction was a case closely resembling, if not identical with, the one I have above detailed, and which affords an additional example, if I am not mistaken, to the many where errors in diagnosis have been committed with reference to congenital tumors situated on the head. The account is altogether a vague one: the description of a "large mass, rather larger than the head," near the posterior fontanelle, being a "false head," and having a mere "cleft for the eye," "an elevation in the seat of the nose," and "a *fold* in the place of the mouth," while there were no bones of the face, no eyeball, no "cranium," lead me to think that the writer has been more influenced by his imagination than led by his judgment in his description.

Having arrived, however, at the conclusion that the child was bicephalous, Dr. Buering, the narrator of the case, determined to cut off one of the heads of his patient.

So far as I am aware, decapitation is a new *surgical operation*; though it is the belief of some that it is scarcely a more serious one than certain procedures occasionally adopted.

It is not stated whether he had any difficulty in deciding which of the heads he would remove; but probably, influenced by the less handsome appearance, and the inconvenient position of the posterior one, he first laid it open, and then passed a ligature around the pedicle which attached it to the other.

It is not unusual, we believe, for death to occur from the loss of a head; and Dr. Buering's patient was no exception to the general rule, for on making his visit the following day, the parents informed him, with "great satisfaction," that his patient was dead; and, I think they might have added, that the Doctor's procedure had had some considerable part in killing it.

The whole details forcibly impress me with the belief that Dr. Buering's case was one of congenital encephalocele, or hernia cerebri. When he tightened his ligature, "the respiration became quickened and forcible, the pulse frequent, hard, and small, the pupils *dilated*, and the blood-vessels of the head and face *injected*, so much so, that the jugular vein became apparent "through the thick layer of fat which covered it." These symptoms caused him to take blood from the jugular; and upon giving a "third pull" to the ligature, a stream of blood "burst forth" from the orifice in the vein.

All these conditions are easily explicable on the supposition that his ligature acted on the longitudinal and lateral sinuses, and on the portion of brain protruded from the cavity of the cranium, and contained in the pedicle of the tumor; while they cannot be explained if his description be correct, that "there was no cerebral connection between the pseudo-cephale and the normal head."

My convictions respecting the case are strengthened by the farther description given by the author. On looking into the interior of the tumor, he found a "regular dura mater,"—"a falciform process"—"an imperfect tentorium;" &c. Had I laid open the tumor in my case as he did in his, the hernial protrusion would have presented with "two normally-formed hemispheres," "parted by a deep sulcus," &c. &c. exactly as in his case.

He subsequently states, that the "encephalon of the normal head was perfect in all its parts." With the ligature surrounding the protruded part of the dura mater, the loss of the cut-off portion of cerebrum would not be very conspicuous; and considering the error in diagnosis I suppose to have been committed, and the consequent operation, I am uncharitable enough to withhold my faith in the correctness of the description of the pathological appearances; and to conclude from the whole incongruous account given in the extract from Caspar's Wochenschrift, in the MED. GAZETTE, that the details have been drawn up less with reference to the actual appearances than in unison with preconceived notions; that Dr. Buering has added another mistake to the many committed in respect to the diagnosis of congenital tumors on the head; that he cut off by his ligature a part of the cerebral lobes projecting into the tumor; that from a hasty examination he did not observe any imperfection in what

he calls the "normal encephalon;" or that there is a direct though unintentional misrepresentation, occasioned by the desire of the narrator to bring his erroneous impressions in support of the reasoning on which he determined and practised his unfortunate interference; which, even on his own showing, was replete with danger, and totally uncalled for.

CASE OF PARAPLEGIA TREATED WITH STRYCHNINE.

To the Editor of the Medical Gazette.

SIR,

THE manifest efficiency of strychnia in a case of paraplegia which has lately occurred in my practice, induces me to offer it for insertion in your journal.

Miss Rixon, aged 13, had been attacked between five and six months before I visited her with pneumonia, attended by its usual symptoms, and for which she had been subjected to the ordinary treatment. About a month after the attack she lost the power of moving her lower limbs, and her voice was reduced to a whisper: her appetite then began to fail, and the action of the bowels became so torpid as to require the use of frequent purgatives. General emaciation followed; the limbs wasted and became cold, and so entirely void of all sensation as to be insensible to any stimulus which was applied. She was unable to bend either knee, but especially the left, without assistance; and the paralysis was so complete as to render her perfectly unable to use or even to move the legs. She complained also of pain in the head, and want of sleep. To remove these symptoms she had been put into hot baths, the limbs well rubbed, a blister had been placed down the spine, and she had been put on a course of tonic combined with purgative medicine, by the medical practitioner who attended her. But even these judicious measures had failed to produce any material benefit, and her friends had given up all hope of her ever recovering the use of her feet.

On my first visiting her, on March 22d, and finding her in this distressing condition, I ordered her another blister on the nape of the neck, which was kept open by the Unguent. Sabinæ for several days, and prescribed the following purgative:—

℞ Hydrarg. Chlorid. gr. ½; Ext. Colocynth. comp. gr. ij.; Ext. Nucis Vomicæ, gr. ⅛. Misce, fiat pilula 6tâ quâque horâ sumendâ.

On March 25th, finding the bowels not sufficiently relieved, I increased the Ext. Col. comp. to gr. iij., and the Ext. Nucis Vomicæ to gr. ⅛ in each pill, and directed them to be taken as before.

31st.—The symptoms much the same. The blistered surface so ulcerated and sore as to cause great uneasiness, and disturb her rest.

Omitte Unguent. Sabinæ.

℞ Unguenti Plumbi Acetat. ℥iv.; Unguenti Zinci, ℥ij.; Pulv. Opii, gr. v. Probe simul terantur, et applicetur bis quotidie parti exulceratæ.

Perstet in usu pil. 6tis horis.

April 5th.—No use or sensation in the limbs; great debility; tongue red; pulse 110; no appetite; blistered surface soothed, and healing.

℞ Mist. Ferri comp. ℥j.; Decoct. Aloe comp. ℥ss. M. ft. haustus bis quotidie bibendus.

℞ Hydrarg. Chlorid. gr. j.; Ext. Coloc. comp. gr. ij.; Ext. Hyosc. gr. iss.; Ext. Nucis Vomicæ, gr. ⅓. M. ft. pilula singulis noctibus sumenda.

22d.—The voice stronger; bowels still constipated; pulse improved; no appetite; feet quite cold and powerless, and entirely insensible to the touch, or even to pinching.

℞ Strychniæ, gr. j.; Cons. Rosæ, q. s. ut fiant pil. xij. è quibus sumat unam bis quotidie.

℞ Hydrarg. Chlorid. gr. j.; Ext. Coloc. comp. gr. v. M. ft. pil. horâ somni singulis noctibus sumenda.

May 2d.—Symptoms as before.

Augeatur Strychnia ad gr. ⅛ in quâque pilulâ.

16th.—Has more warmth in her feet than she has experienced for some time, and says that she feels "a pricking and jumping sensation in them, and down the spine and lower extremities." Two days ago she had pain, and a slight swelling of the great toe; and yesterday she felt very restless, irritable, and "queer," and the pricking sensation increased. Bowels still torpid.

℞ Strychniæ, gr. ⅙; Pil. Aloe comp.

gr. iij. M. fiat pil. ter quotidie sumenda.

20th.—I this morning received the following note from her uncle:—

"Sir,—I have the pleasure to inform you that Miss Rixon has recovered the use of her feet, and actually walked down stairs this morning, &c.—I am, sir, your obedient servant, W. Wells."

21st.—On visiting her to-day, I had the gratification of finding this note verified by her walking across the room to meet me as I entered. She had experienced no unpleasant effect from the pills, and had entirely recovered the warmth and use of her feet and legs. She could also talk aloud as well as ever she could. I desired her to continue the strychnia pills twice a day for a short time; and she is now gone to Brighton for the restoration of her strength, which I find, by a letter which I lately received, is gradually returning, and she is able to walk out daily without support, and without any inconvenience.

I wish it to be distinctly understood, that in offering this case to the attention of your readers, I am not laying claim to any discovery, or to any particular novelty in practice. The efficacy of strychnia in those cases of "paralysis which seem to arise from diminished nervous excitement" has been already detailed by Dr. Bardsley and others; and as I could not detect, on examination, any organic cause for the paraplegia, I anticipated the probability of a favourable result. My principal object is to corroborate the recommendation of this remedy where the ordinary treatment has proved abortive. I have at this time two cases of paralysis under my care, in whom it also promises to afford relief; and although strychnia is a most deleterious medicine when improperly administered, it is a very valuable one in the hands of a careful and observant practitioner. Indeed, in cases where larger doses than I have prescribed have caused rather alarming consequences, the immediate discontinuance, and a liberal supply of stimulants, have very quickly removed them, and enabled the patient to resume the medicine.

I am, sir,
Your obedient servant,
J. C. Badeley, M.D.

Chelmsford, July 2, 1844.

THE CONSTITUTION OF THE MEDICAL PROFESSION AT HOME AND ABROAD.

By Sir Geo. Lefevre, M.D.

The subject of medical reform, which amounts at present to a species of agitation, seems to me to embrace two important questions; the one, whether every practitioner in medicine should be considered qualified by education, and consequently called upon by the public, to exercise every branch of the healing art; or whether the community will be best served by a subdivision of labour, which, in all matters connected with the arts and sciences, has been attended with the most useful results. A long residence in foreign countries has had its weight in influencing my opinions, and compelled me to believe that, under proper regulations as regards education, and with such gradual reforms as time will necessarily produce, the profession, as it is practised in this country, does not require any great legislative interference, and that, abating some abuses, which are the inheritance of all human institutions, the public is nowhere better served than by the three classes of practitioners who are at present recognized by the laws and common consent of the country.

It is to be borne in mind that, between legislative enactments and practical applications, a wide chasm intervenes; and we find, in most circumstances of life, that the evasion of laws is much easier than their enactment. In nothing does this hold good more than in the medical profession; and in spite of all the reform-bills which consummate wisdom may produce, the public will consult its own interest, or at least what it believes to be such, and there will be always a sufficient number of practitioners actuated by the same principles to indulge it in its caprices.

Upon a *primâ facie* view of the subject it does appear that a man is more useful as he is enabled to render every assistance that his art professes to do; but this omnipotence is not the lot of every man. Nature has endowed us with different talents; and if we have them not by birth, it is practice

alone that can make up the deficiency. Now this practice is, in many instances, not to be afforded us under all circumstances; but as it is afforded to many who possess local advantages which others do not; so here is at once a separation in the branches of the profession. A man residing in a country town may possess every educational requisite for performing the operation of lithotomy; but the first patient who presents himself with that disease will say, "whatever confidence I may have in my ordinary attendant, I know that he has not performed that operation, and I shall be safer in the hands of a man who has done it frequently." He will remove himself to London, or some metropolitan town, and put himself under the care of, not any of its surgeons indiscriminately, but of the one who has the greatest reputation in this line. If he be a poor man, and has not the means of so doing, he will find means of being transferred to a county hospital, where he will receive all the advantages of the more opulent sufferer. The general practitioner will have to rest upon his oars, and may pursue a long and useful career without ever having an opportunity of doing that which, did it occur, he would most probably do with great credit to himself; and we do boldly and fearlessly assert that a more useful, deserving, and, in the present day, a better educated class of men, are not to be found in any country than such as now exists in England.

Acting upon the principle that practice makes perfect, the public will resort to those whom they consider best qualified for treating any peculiar disease; and this will necessarily split the profession into branches, which no legislative interference will be able to tie indissolubly together.

As life is not long enough to make us equally well acquainted with every branch of our art, we shall be compelled, by public opinion and patronage, to devote ourselves to some one in particular, and in doing so we shall best serve our own interests and the public good. As regards surgical operations, practice alone will never suffice, if we have not manual dexterity conferred upon us; and no advantages thrown in our way, no public institution over which we may preside, will mislead those who apply for our assistance. The separation of the two branches of physic and surgery is not, what some wish to have it understood, a nominal division; it is founded upon natural laws, and formed from natural consequences. Medicine and surgery, to use the words of the late Mr. Abernethy, are not what the French republic professed itself to be—one and indivisible. They may be so in theory; they should be so. Every practitioner should be acquainted with all the features which diseases of all kinds present to observation; for how is a surgeon to treat a local disease if not acquainted with the constitutional symptoms to which it may give rise, and the physician may work in the dark if ignorant of the same causes; but pathology and manual dexterity are not synonymous, they are not co-equal powers; and as such the public will never appreciate them.

In a metropolis like London, and in the higher lines of practice, this distribution of labour is, and ever will be, attended with advantage to all parties, and it would be still more so if the two branches did never trespass on each other's callings. No man of eminence finds that life is too long to be devoted to either branch, and we may not be wrong in asserting that those who have made peculiar diseases their whole study are not the least useful members of the profession. Whence arise the manifold improvements in modern times but from devotedness to specific objects—such improvements bearing the names of those who discovered them; and, abounding as the means of alleviation have done within the last twenty years, it is a libel to say that our art does not keep pace with the other arts and sciences. We may instance the operation for crushing the stone, the merciful invention of the water-bed, the cure of organic deformity in the expression of the eye, and a host of minor contrivances to palliate human suffering. These have been, for the most part, the work of individuals who have devoted their attention to special objects.

So much for the advantages of maintaining the present system as regards this grand division of labour, which is recognised as it exists between medicine and surgery. It is now worthy of examination whether any advantage is to be gained by annihilation of the general practitioner, who can have no

fears himself upon the subject, feeling persuaded, as he must be, that a member of society so eminently useful as himself will always meet with sufficient patronage. Any measure which attempts to render him less respectable than his present education guarantees him to be, any plan of swamping him by allowing those of inferior education, or, what is the same thing, of inferior means of education, to trample upon his rights by claiming equality with him, is a thing as monstrous in conception as it is criminal in effect. The object of the legislature, if it have any in its proposed reform, should be directed to facilitate education, but to insist upon its perfectability; not to throw a less informed class upon the public, but to secure to it effective assistance by more stringent laws for those who may hereafter be called upon to exercise their art; to raise them to the consideration enjoyed by the higher class, not to reduce them to the level of the leech. The qualifications of quondam general practitioners are equal at present to what the physicians of former days could boast; and who but the public has gained by their elevation? It must be remembered that nine-tenths of the public are in their hands, and that they are responsible agents.

It is impossible to dispense with this class, and it is the duty of the legislature to make them worthy of their calling. To whom are they more requisite than to the physician or surgeon in their attention to the general details of cases, to which the former, if in very extensive practice, could not duly attend? and where they act in concert, honourably and conscientiously, all parties are benefited by this distribution of labour.

No man can stand alone in his profession; society is a chain of which every link is equally essential to its integrity; and it is upon the division of the stress made upon it amongst all its pieces that the whole preserves its state. In the country, and in smaller towns, the general practitioner is the man upon whom all responsibility devolves; and if he be a man of education and information, he maintains a high rank in society.

The mode of remuneration of general practitioners is a continual subject of discussion, and demands cool and deliberate attention. It is asserted by those who would wish to introduce reform, that it is derogatory to the medical man to receive remuneration for his time and talents by charging it upon his drugs, and that as he has no other means of payment, so the temptation may lead to great abuses. Those who view it in this light, therefore, would introduce the clause that *no man who prescribes should be allowed to dispense, and that no dispenser of drugs should be permitted to prescribe them.* This proposition we ourselves advanced many years ago, in a pamphlet upon Medical Reform; and we are obliged to confess that we must retract our opinions upon that point.

In the first place, as regards the stigma which some attach to it, we do not conceive that what has been long established by custom as most useful and beneficial to the public, can deserve the term derogatory, arguing necessarily from the use, and not the abuse of the principle; for we shall find that abuses equally prevail where this system is not adopted. To the pure all things are pure, and it is a very great convenience to the generality of people to be supplied with the prescription and the remedy from the same source; as far as regards the lower orders in this country, it is altogether indispensable, for hardly is it possible for them to pay the lowest price for their medicines, and what chance would they have of any attendance if obliged to pay a fee, however small it might be, and then pay again for its value in kind? As it is, the poorer class, by which it is not understood mere paupers, do obtain a certain credit with the apothecary, who never refuses his aid in cases of distress, and supplies what is necessary; but the mere dealer of drugs would give no credit, and the patient would be deprived often of such assistance as, when timely administered, will prevent serious illness, the effects of which might bring him to destitution.

It would be necessary for the government to adopt a system which prevails in Russia, where the druggists are obliged to furnish all those who apply *in formâ pauperis* with medicines gratis, or at the prime cost, for which they receive some equivalent from the state.

In reply to the assertion, that the mode of remuneration presents the temptation for great abuse, by forcing more medicines upon the patient than is necessary, we have to reply, that no

legislative enactments will be sufficient to prevent such, and that no greater abuses occur than in those countries where the general practitioner does not exist.

We believe that great changes have taken place in England in this respect; that as the apothecary has become obsolete, and as the remunerating public has been made aware of the difficulties under which the general practitioner is placed upon the score of remuneration, a certain understanding exists between them: a modicum of medicine, and a larger fee for attendance, is more congenial to both parties. That a superabundance of medicines has been dispensed, and may be at present in some cases, cannot be denied; and this, perhaps, is the greatest premium to the system of homœopathy and other species of quackery; but this is the abuse and not the legitimate use of such means; and where the will is the same, similar means will be found of carrying it into effect under any new system which may be adopted.

The man of low education, the mere tradesman in medicine, who now finds it his interest to deal dishonestly with his patient in this wise, would continue to do so although he might be obliged to shift his ground. He and the vender will be in collusion, and the patient will have nothing less to pay for his drugs, and something more to pay for the sign manual which warrants their issue from the laboratory. We have seen this abuse carried to an incredible pitch in foreign countries, where the druggist has a deduction of forty per cent exacted upon his charge; so that medicines are as dear when purchased from wholesale dealers as from the dispensing practitioner. In many instances the physician has no other means of remuneration; for the patient is unable to pay him his fee, which he gets in the per centage from the druggist, who will not make up the prescription but for ready money; so that the patient in narrow circumstances is much worse off than when he has to pay but one fee for advice and medicine. We have been long eye witnesses to the evils produced by such collusion, which makes us averse to any change in this respect. We do not impugn the respectable members of the profession; but disreputable men are to be found in all professions, and in all countries of the earth; and such will always find means of acting dishonestly in spite of all legislative enactments. This is of itself a most urgent and undeniable reason for not throwing the profession open to men of inferior rank and education, for the injury to society will be irreparable by such a proceeding. This involves the question of medical education, which we propose to speak of hereafter.

A question also of considerable importance to the profession remains to be discussed, in regard to the fees to which practitioners will be entitled. If the different classes are to be awarded different fees, it will be more invidious, and productive of more jealousy and ill feeling than at present exists among its members. The general practitioner is satisfied with his present system of remuneration, and it is such as best suits the public in general; but if he is at once to rise to the higher rank, and the latter to descend to his, there must be an equality also in pecuniary compensation;—and how are the junior members of the profession to hope for the same patronage which is the reward of high talent and experience? It is by degrees only that the junior works his way up the professional ladder, and he feels safe when he has gained the summit. His footing is then sure; whereas to place him there at once would be to threaten his downfall. We feel convinced that no great reform is necessary other than every effort to amend abuses; and that the present division of labour, where the classes as they now exist act in honourable, harmonious concert with each other, is calculated to supply all the medical wants of the British public, and is the most worthy of its patronage.

April 12th, 1844.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue a allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Anatomico-Chirurgical Observations on Dislocations of the Astragalus. By THOMAS TURNER, Surgeon to the Manchester Royal Infirmary, Lecturer on Anatomy, &c. &c. Pp. 138. 8vo. 1843.

THESE observations were originally published in the Transactions of the Provincial Medical and Surgical Association, and are now presented to the profession as a separate work. This volume

contains an account of forty-five cases of dislocation of the astragalus, of which twenty-four were simple, and twenty-one compound.

Of the Simple Cases.

Partial	3	Without fracture	2
		With fracture	1
Complete	21	Without fracture	13
		With fracture	8

Of the Compound Cases.

Partial	2	Both without fracture.	
Complete	19	Without fracture	13
		With fracture	5
		With dislocation of the ankle	1

Mr. Turner lays down the treatment applicable to these varieties of dislocation, particularly insisting on the expediency and safety of excision of the astragalus in complete, compound, and isolated dislocation of the bone.

If the astragalus be partially dislocated, and not twisted round, as it often is when the dislocation is complete, there is reason to hope that reduction may be accomplished. In simple, direct, and complete luxation, when attempts at reduction have failed, Mr. T. recommends that the bone be allowed to remain in its new situation until the skin begin to ulcerate; he then makes an incision over the bone to relieve tension and pressure; when the bone is detached from the circumjacent textures by the natural process of separation, he removes it. In simple, indirect, and complete luxation, it may be anticipated as a matter of certainty that the bone will die and require dislodgment. To take off tension and pressure from the angles of the displaced bone, Mr. T. advises that an incision be at once made over it; but he does not then remove the bone, lest the exposure of the cavity of the joint may have an injurious effect. In complete compound luxation, he advises the immediate removal of the astragalus; and a careful perusal of the cases which Mr. Turner has brought forward confirms our opinion of the soundness of the practice on which he so forcibly insists. It is certainly a much more judicious proceeding to excise the luxated bone, than to attempt by long-continued and violent means to reduce the dislocation.

Respecting the operation, Mr. T. says, p. 113, "it may be very easy, and free from danger, when the bone has been almost wholly separated from its connecting ligaments and other textures; but in other cases the attachments may be so firm, and the space in which we have to dissect so much encroached upon by displaced tendons, and the posterior tibial artery so denuded of its protecting covering, as to render the operation of extirpating the bone not only exceedingly difficult, but, without great care, exceedingly dangerous. This latter circumstance, however, is the main source of danger, as the artery is much exposed; and in some instances it has ulcerated or sloughed, and given issue to alarming hæmorrhage."

The following is a table of the treatment, and of the result, in each of the cases which Mr. Turner has given; one of them being twice particularised here, owing to its being an example of partial excision as well as of partial reduction:—

No.	Treatment.	Result.	
2.	Partial reduction	Permanent inflexibility	1
		Tolerable motion	1
6.	Complete reduction	All did well, with tolerable, and some with perfect motion.	
10.	Bone allowed to remain in its new locality.	Anchylosis	1
		Deformity and impaired motion	2
		Imperfect motion	1
		Result not published	1
		Useful foot (all backwards)	5
6.	Partial excision	Deformity and permanent lameness	1
		Deformity, with a tolerable foot	1
		Anchylosis	1
		Useful foot	3

18.	Complete excision	Anchylosis	1
		Useful foot	13
		Death	4
4.	Amputation.	Recovery	3
		Not recorded	1

Of the 18 *cases of complete excision*,

In 10 the operation was immediate.
1 on the second day.
1 on the eleventh day.
1 after four weeks.
1 after thirty-three days.
1 after ten weeks.
2 after fourteen weeks.
1 after seven months.

Simple cases	3
Simple and complicated	3
Compound cases	10
Compound and complicated	2

It is worthy of remark that the dislocation was *backwards* in all those cases where a useful foot was the result, where the bone was allowed to remain in its new locality.

Mr. Turner's work does not include all the cases of dislocation of the astragalus which are on record, nor are the authorities to which he refers mentioned with sufficient precision; still the work is a valuable one, and ought to be carefully perused by every practical surgeon.

MEDICAL GAZETTE.

Friday, July 12, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

BOARDS OF GUARDIANS, THE HORSE GUARDS, AND THE ADMIRALTY, *versus* THE MEDICAL PROFESSION.

INDIVIDUALS, if sometimes ungrateful to us for our services, are very often otherwise, and besides shewing themselves anxious for our friendship and good opinion, behave to us munificently,—(*us* and *our*, refer of course to medical practitioners). Public bodies seem invariably to behave ill to the members of the medical profession. It is well known that Boards of Guardians deal with us precisely as they deal with the contractors for soap, candles, beef, and bread. Their rule of selection in reference to such necessaries is quality combined with price. Every man holds himself, and indeed is, a judge in this direction.—A dipped candle is of a good or a bad colour; it burns well, or it burns ill, &c.: in this, and in parallel cases, there can be no mistake. But when the test of price comes to be applied to a tender for medical service, it is quite another affair: here a Board or Committee have no means of judging whether the thing proffered is dear or cheap. The lowest-priced article, indeed, is generally the dearest, as it is almost necessarily the worst.

Men collectively far higher than the individuals who generally compose Boards of Guardians, however, very commonly show not only an indisposition to exalt, but a positive inclination to depress the medical profession. It is the individual perseverance and resolution of the present Director-General of the Army Medical Department alone that has placed the army medical officer in the position, such as it is, which he holds. Till within a very few years the naval medical officer actually held no commission; he was a mere warrant officer, and took rank with the boatswain, gunner, master, and carpenter. It is to the long approved intercession with the Admiralty of the present Physician-General to the Navy, Sir William Burnett, that we are at length freed from this slur upon the respectability of our position when afloat.

It is well known that many of our regimental surgeons distinguished themselves greatly during the Peninsular war by dressing the men on the field, in front of the enemy. At the Horse Guards, however, there has still been an obvious unwillingness to allow the modern Podalirii and Machaons their reputation for courage acquired in this way; and courage it evidently was of the highest kind,—not that of excitement, and when the blood is up, but that of the consciousness of doing a humane and necessary duty. The medical officer's place has, on various occasions, when the feats referred to have been quoted by way of doing him honour, been declared to be the rear, though no one ever ventured to assert his title to that position: "How should I have been regarded," said our friend, Dr. ———, to us one day, speaking of this matter, "had I said 'my place is in the rear,' when an orderly came for me to look after our Colonel, who had been knocked down thirty yards in advance of the regiment? My instructions were 'the rear,' indeed, but I went and saw to the Colonel's hurt, and had him carried off amidst a perfect hail-storm of shot." "The Duke" is said not to like the medical profession; he was never seriously hurt himself. Yet he has always been very true to some of his old campaigning medical friends, and we have heard that he was rather partial to Sir Astley Cooper, who used to call him the *Dook*.

The indisposition to estimate the medical profession at its true price, its cultivators at their real value, alluded to above, is plainly seen on all occasions, both at the Horse Guards and the Admiralty. In the army we have Sir James M'Grigor as our representative, and a man truer or stauncher to the interests of the department he represents never lived. If every thing we have a claim to as army medical officers be not accorded us, we are perfectly certain that it is because Sir James M'Grigor, with the exercise of his utmost influence, has not been able to have it otherwise. All the world is acquainted with those admirable reports on the sickness, invaliding, and mortality among the British troops stationed in the several quarters of the globe. The value of these documents is indisputable, is undisputed; they are at once the most authentic and complete statistical documents extant. They are obviously medical in each and every particular; yet they do not emanate from the department to which they certainly belong, but from the War Office generally, and purport to be the work of a gentleman who, according to the date of the particular report which is referred to, will be found with the rank of Lieutenant, of Captain, and of Major; and when the next appears, unless he has achieved the next grade in succession, he will be found with that of Colonel. Now we are very far from desiring to call in question the merits of the successive Captain, Major, and Colonel; we only bid him in his prayers every night to thank God that he entered the army as an ensign, not as an assistant-surgeon. As an ensign he has thriven, he has risen according to his deserts,—not one step beyond them. As assistant-surgeon, with equal claims, he would certainly have been neglected and overlooked.

Who moved the gathering of the materials out of which these admirable statistical tables have been formed? and who actually gathered them? The Director-General of the Army Medical Department ordered, the army medical officers at large accomplished the work. Who showed how these bulky and incongruous materials were to be reduced to shape, to be brought into order, and made available for any useful purpose? Dr. Gordon first, in the offices of the Army Medical Department,

Mr. Deputy Inspector-General Marshall next at the War Office, having under him Assistant-Surgeon Dr. Balfour and Lieutenant Tulloch, as clerks and actuaries. Who has had the praise, who the profit of the labour, achieved when once fairly begun? Sir James M'Grigor's name is scarcely connected with the subject; if it be, 'tis but because it was impossible to omit it. Dr. Gordon has nothing that he had not before he meddled with the chaotic mass. Mr. Marshall, after some thirty years' service in all climates, gets a single step—from Deputy Inspector he becomes Inspector—and has some 5s. per diem additional half-pay, after he has put the reports in train, and made it easy for any one to follow in the track which he has indicated. Dr. Balfour, from assistant-surgeon in a marching regiment, after some ten or twelve years' fag as clerk, accumulates interest enough at head-quarters to get placed in the First Foot Guards, *in his old grade*, where he remains. Lieutenant Tulloch—ah! here we emerge from among the luckless family of the medici; here we come to fortune's favourite son at last! Lieutenant Tulloch by and by became Captain, and then Major, and then Colonel Tulloch, — all, doubtless, "as happy prologues to the swelling act of the imperial theme;" for we learn that he has only to live now to become General Tulloch; and should circumstances arise to make his services in the field more desirable than they are in the cabinet, no one can say to what worthy eminence he may not aspire;— and all this, we maintain, simply because Mr. Tulloch entered the army as an ensign, not as an assistant-surgeon. Entering as assistant-surgeon, the hill he has successfully clomb would have been as inaccessible to him as is the bottom in the middle of the Atlantic, five hundred fathoms down; the steep would have presented itself to him, only to mock his eagerness and ability to scan it.

So much for the medical officer's chance of distinction in the army, where the duty that was rightly his, and that would have gained him credit, is taken from him, and given to another. Let us turn to the navy, and take the very last important feature in the history of navigation to illustrate our theme, that medical men are studiously neglected in the public service — we mean the lately returned scientific and exploratory voyage towards the antarctic pole, the fruit of which was the discovery of a new continent—Victoria Land—another world, ice-bound, indeed, and barren, but grand and striking in its physiognomy, as its discovery is gratifying to every better nature among us, from gaining us farther knowledge of the earth we inhabit. Of course all the officers engaged in the perilous service successfully achieved of circumnavigating the southern pole, were richly rewarded on their return. *Presque tous,* as the courtly preacher said when, suddenly recollecting in whose presence he was, he qualified the irrevocable doom that all should die— "Nous mourirons tous — *presque tous, Sire!*" So the officers of the Antarctic expedition were rewarded — *presque tous.* The captain was knighted, the commanders were posted, the senior lieutenants were gazetted commanders, the second lieutenants became first lieutenants, and a midshipman or two, we presume, were *made.* The surgeon of each ship, of course, got a corresponding advance. Not at all; neither of them got any thing. As they went out so they returned, so do they remain. And yet, will it be believed that the senior of these gentlemen voluntarily took on himself the office of zoologist and geologist to the expedition, was unwearied in his endeavours to collect specimens of fish, fowl, flesh, and mineral; and did actually make many ob-

servations and discoveries, zoological, geological, and general, of extreme interest to science, and, it may be, of vast importance to the commerce of this country—we allude to the discovery of coal—all of which were beyond the mere line of his duty, but attention to which on his part gave a character to the whole affair which has added immensely to its respectability, to its value and importance in the eyes of the philosopher and naturalist. Call ye that "backing of your friends," my Lords of the Admiralty? Every officer, save the medical officers, promoted! Will it be believed? "Hath not a naval surgeon eyes, organs, affections like another man? Is he not fed with the same food, warmed and chilled by the same winter and summer as a captain, and commander, and lieutenant? If you prick him will he not bleed, and if you wrong and neglect him will he not repine?" Aye, marry, will he, and find unfettered pens, too, eager to aid him in giving shape to his secret sense of unworthy usage.

Surely the thing cannot have been seen in its proper light at the Admiralty, or such a grave slight would never have been put upon the whole medical profession as is certainly practised in this cruel neglect of the surgeons to the late antartic voyage of discovery. It must be an oversight on the part of their Lordships, and needs only to be pointed out to be redressed.

BETHLEM HOSPITAL.

We have just learned incidentally that it was resolved unanimously, at the last meeting of the Committee, in addition to the numerous extensions and improvements that have taken place, and are still going on, within the walls of this noble institution, to increase the salaries of the physicians by the sum of £50 per annum; and farther, to add the amount of four pupils' fees to the whole, the tickets being placed at the disposal of the Governors and medical officers of St. Thomas's and St. Bartholomew's Hospitals, to be awarded as prizes to the two most deserving pupils in each school respectively. The Committee of Bethlem Hospital are said to have it especially in view, by this wise and worthy liberality, to extend a knowledge of the pathology and treatment of insanity, and thus to make the establishment over which they preside a means of benefit to the public at large, as well as of advantage to the individuals who receive medical assistance, and now, in the majority of instances, recovered health within its walls. This is a truly noble spirit, and reflects the highest honour on the President, Treasurer, and Committee of Bethlem Hospital.

THE ST. MARYLEBONE INFIRMARY AND ITS MEDICAL OFFICERS;

TO WHICH IS ADDED, THE SKETCH OF A PLAN FOR RECONCILING DIFFERENCES, BY THE EDITOR.

To the Editor of the Medical Gazette.

Sir,

Seeing in your valuable journal some reference to the St. Marylebone Infirmary, as it was in the days of Dr. Hooper, and as it now is, and being well acquainted with the whole circumstances of that establishment, I beg to put you in possession of the following facts.

Dr. Hooper was the physician, and the late Mr. Phillips (surgeon to the household of George IV. and William IV.) was the surgeon. Dr. H. received £150, and Mr. P. the same sum, annually, as a *gratuity* (so it was termed), not a *salary*. In addition to this each received £30 per annum for visiting the insane at Hoxton. They were both allowed as many pupils as they chose to take, and Mr. Phillips a house-surgeon, who was lodged and boarded at the expense of the establishment, and paid Mr. Phillips £100 a year for the situation. The salary of the apothecary was £500 per annum, and he took two or three pupils, who worked in the surgery under his direction, and always paid him a handsome fee as his apprentices. This *was* the St. Marylebone Infirmary.

The change from what it was to

what it now *is* was very sudden. On the resignation of Dr. Hooper, a certain gentleman, who shall be nameless, persuaded some of the influential directors of the infirmary that the physicians of public institutions ought to receive no salary, and guaranteed that he would bring forward some who would do the work gratis. This tickled the ears of some of the directors, and they consented to try the experiment. The gentleman before alluded to canvassed several physicians; and under the specious promise that a school of medicine should be formed, they came forward and offered themselves as candidates. Two of them accordingly were elected "honorary physicians;" that is, with the understanding that they were to receive no remuneration for their services. The whole of the old staff were bundled out, *sans cérémonie*, at a moment's notice, and new "honorary" medical officers in every department were elected, whilst all the inferior medical offices were filled up at reduced salaries. So have things remained until the present time.

From this statement it will be seen that the directors took advantage of the competition that existed in the medical profession, to get their work done for nothing, and the example then set has been religiously followed by all Poor Law Unions, and by all classes of society ever since.—I am, sir,

Your obedient servant,

An Old Director.

[Our correspondent, we opine, ought not to throw the whole blame upon the directors. It was unhandsome in them indeed to take advantage of any set of circumstances to get the necessary business of attending the sick poor performed free of expense; but the members of the medical profession ought to have stood out for fair remuneration; they ought not to have been found ready to cut their neighbours' and their own throats at the same time. We think the handsome thing for the directors of the Marylebone Infirmary to do now, is to come forward and address their present staff of very distinguished medical gentlemen in some such words as these:—"Gentlemen, we find that we have done wrong in yielding to the insidious suggestions of an enemy to your profession, by which we have been led to squeeze you of services that are necessary to us without making you any return in the shape of gratuity, as of old. We have thought better upon the subject; we see that the labourer is worthy of his hire, and we have come to the resolution of reverting to former usage, and paying our medical officers for their services." Upon which the medical gentlemen ought to address the directors in these words, or in words to the following effect:—"Gentlemen,—We are of the same mind with yourselves; *we, too*, have erred in undertaking onerous and responsible duties without fee or reward, and are much rejoiced at the resolution to which you have come. We shall accept your money without any hesitation, and promise you to do our office not the less willingly and zealously for being paid." This we very humbly think would put all things right.]—Ed.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, June 25th, 1844.

The President in the Chair.

Tabular View of 180 *Cases of Tubercle of the Lungs in Children, with some Remarks on Infantile Consumption.* By P. Hennis Green, M.B.

The author commences his paper by observing that the remarks appended to the tabular view are rather intended to point out a few of the peculiarities which distinguish infantile consumption from the phthisis of adults, than to give any complete history of phthisis in the young subject.

The main character which distinguishes the phthisis of children from that of adults is this: in children the tubercular deposit occupies a much larger surface of the lung, is more rapidly secreted, and complicated with tubercular disease of other organs more frequently than in the adult.

Having briefly described the varieties of tubercular deposit in the lungs of children, the author gives some statistical results relative to crude tubercle and caverns, as deduced from his table.

The complications of pulmonary tubercle in the child are numerous and varied. The author compares his own results with those given by M. Louis for the adult, and shews the proportion in which various other organs were affected with tubercular disease.

The symptoms are referred to two varieties of the disease: one occurring in children of from 10 to 14 years of age, and resembling the disease in adults; the other affecting younger children, and presenting several

peculiarities. In the acute form of this latter variety, the patient is often cut off long before the disease has arrived at the stage of cavern, while the wide-spread and rapid diffusion of tubercular deposit may excite—in the head, hydrocephalus or meningitis—in the chest, pleurisy—in the abdomen, peritonitis—and in the intestinal canal, tubercular ulceration. In the chronic form of this variety, the author remarks that the signs of cavern are very frequently absent altogether, and this absence may depend on the seat of the cavity (middle or lower lobes), its anfractuous formation, or the small calibre of the bronchial tubes.

The author next examines successively the rational symptoms, and indicates the peculiarities which may attend each. With regard to hæmoptysis, he observes that it is not so rare a symptom as many eminent authorities assert. It did not, however, occur in any patient under nine years of age.

The question of diagnosis having been discussed, the author concludes with a brief description of bronchial phthisis. The mechanical and physiological effects produced by the enlarged glands on the neighbouring tissue and organs are first pointed out; the symptoms are then indicated; and the author sums up with some valuable remarks relative to the diagnosis of this variety.

The author does not enter into the question of treatment, which he regards as merely palliative; but he states his belief that, under favourable circumstances, we have a much greater chance of arresting the progress of incipient tubercle in the child than in the adult.

Peculiar Case of Gelatiniform Cancer, in which all the organs in the body contained Colloid Tumors: with the appearances on dissection. By John C. Warren, M.D. Professor of Anatomy and Surgery in Haward University. [Communicated by Marshall Hall, M.D. F.R.S.]

The patient in this case was a man aged 25. The particulars of it are detailed at considerable length, and could not be well abbreviated. The author remarks that colloid, gelatinoma or gelatiniform cancer, as it has been called, is stated by the various authors who have described the disease, as occurring in one single mass, usually of considerable size. Dr. Walshe says, "the comparative rarity of the coexistence of several tumors in the same subject has been noted in scirrhus; and that this is still more marked in the case of colloid. M. Cruveilhier states, that it is rare to observe its successive or simultaneous development in a number of organs or parts. Dr. Hodgkin expresses himself nearly in the same tone, but adds that it does at times invade different localities in the same subject." In the case here described, the disease was diffused through nearly all the textures of the body, without presenting any one considerable mass. The author adds, that the case is also remarkable in exhibiting a union of the three admitted forms of malignant disease—scirrhoma, cephaloma, and gelatinoma.

Case of Hæmorrhage of the Liver. By James Abercrombie, M.D. Cape of Good Hope.

The patient was a lady, æt. 35, who during the last two months of her pregnancy had suffered much from dyspepsia. On the 28th September, 1841, she was seized with severe pain at the epigastrium, a sense of distension, eructations, and nausea. Having on former occasions been relieved of (what she considered) a similar pain by pressure, she had recourse to it on this occasion, by bandaging the waist,—and to such an extent as to cause the author to fear mischief might be produced. Opium and ether were given, and in the evening she was quite relieved. On the following morning, however, labour came on; it was of short duration; the placenta was readily expelled, and the uterus contracted well. Within an hour, however, symptoms of sinking came on, which led the author to suspect uterine hæmorrhage; but on examination the uterus was found perfectly contracted, and the discharge outwardly very moderate. She complained of pain in the right hypochondrium, and right side of the neck. Opium and stimulants were freely given, and for a time she seemed to rally; but vomiting supervened, collapse of the system took place, and she died on the morning of the 1st October.

On examination after death, there was found on the anterior and superior surfaces of the liver a large sac, which burst on attempting to remove the organ, and discharged about two pounds of blood, fluid and coagulated. It was found to have escaped from a branch of the vena porta; and the sac was formed by the peritoneum. The organ itself had throughout a mottled appearance, and was unusually soft. The uterus was in a perfectly sound state, as were all the other viscera both of the pelvis and abdomen.

REPORTS OF CASES
OCCURRING AT
THE WESTMINSTER HOSPITAL:
WITH REMARKS,
By B. Phillips, Esq. F.R.S.
(For the London Medical Gazette.)

Emma Young, admitted February 7th, 1844, under Mr. White; states that two years ago she had syphilis, for which she was

treated, at the Lock hospital, by mercury (to salivation) during seven weeks; since leaving the Hospital she has been living in a situation as a servant, and has been subject to pain in the head and limbs occasionally, for which she had taken the Decoct. Sarzæ Comp. with advantage; and that about three weeks previous to her admission into the Westminster Hospital, after exposure to wet, her throat began to be painful, with great difficulty of swallowing, which increased in severity so as to cause her to apply for admittance into the hospital.

On examining the throat on her admission, a large ulcer was observed over the back and sides of the pharynx, with considerable swelling in the surrounding parts; great difficulty of breathing, with occasional threatenings of suffocation; there was great tenderness over the larynx, cough, and almost a total loss of voice.

Ordered—Hirudines xij. laryngi app.; and the throat to be fumigated with Cinnabar. Decoct. Sarzæ co. ℥iv. ter die.

9th.—Breathing rather better, complains very much of pain after fumigation, cough very troublesome, and constant vomiting.

℞ Mist. Acid. Hydrocyan. (mij.), ℥j. ter die. Discontinue fumigation.

10th.—Cough and vomiting relieved, but still great difficulty of breathing.

℞ Ung. Hydrarg. ℥ss. nocte maneque axillæ app.

12th.—Much the same; the ulcer in the throat is spreading, and looks in a sloughy state.

℞ Hyd.Bichlorid. gr. ij,; Sp. Vini, ℥ss.; Aq. Destil. Oss. M. ft. Gargar. ter die utend.

15th.—Mouth slightly affected by the mercury, but without much relief to the breathing.

Cont. Med. et Gargar.

17th.—Cough very troublesome, occurring in paroxysms at intervals of a few minutes, threatening suffocation. To have a blister on each side of the larynx, and the throat to be touched with the following lotion:—

℞ Arg. Nitrat. grs. x.; Aq. Destil. ℥j. M.

20th.—But little alteration in the symptoms.—Cont. Med.

23d.—Passed a very bad night, being obliged to remain almost in the erect posture.

Cont. Med. et app. Hirudines vj.

26th.—No better; can now only swallow fluids, and that in very small quantity at a time; cough and difficulty of breathing much the same.

28th.—The same as last report.

March 3d.—Passed a very distressing night; suffocation is so imminent that it is evident, unless something is done to relieve her, death will soon take place. The operation of tracheotomy was proposed, but Mr. White, wishing first to push mercury to the fullest extent, ordered her the following mixture:—

℞ Hyd. Bichloridi gr. ij.; Sp. Vini Rect. ℥ij.; Decoct. Sarzæ Comp. ℥v.; Aq. Puræ ad ℥iij. M. ft. Mist. capt. coch. med. omni hora.

5th.—Continued the bichloride till she had taken gr. ix. in rather more than forty-eight hours, when there was profuse salivation, and all the symptoms of poisoning. The breathing and sense of suffocation are better.

6th.—Breathing better, but great pain in the stomach and constant vomiting.

℞ Acid. Hydrocyanici, mviij.; Potass. Bicarb. ℈ij.; Mucilage Acaciæ, ℥j.; Aq. Puræ, ℥iij. M. capt. ℥j. 6tis horis. Emp. Lyttæ epigast. app.

9th.—Vomiting relieved by the mixture, but the cough is again returning with its former violence.

12th.—Has passed the last two nights better, breathes quietly during the intervals of the cough; can swallow better; bowels confined.

To have an aperient draught of Pulv. Rhæi et Mag. Carb.

16th.—Continued rather better until to-day, when she complains of great pain on the left side of the larynx, and that she was frequently awakened in the night by violent paroxysms of coughing and sense of suffocation.

Ordered to use again the Ung. Hydrarg. and take a dose of cough mixture frequently.

20th.—Swallows with greater ease, but cannot sleep at night; cough and breathing rather better.

25th.—Was attacked during the night with rather severe diarrhœa.

℞ Tr. Opii, mxx.; Mist. Cretæ Co. ℥iv. M. capt. ℥j. frequent.

29th.—Is rather better; cough troublesome at night; the ulceration in the throat is gradually spreading.

Ordered to again use the Cinnabar Fumigation, and Decoct. Sarzæ Comp. ℥ij. ter die.

April 4th.—Much the same as last report.

10th.—Her general health is much improved; appetite good, but cannot swallow any solid food; cough and breathing better; cannot speak above a whisper.

15th.—Improving in health; the ulceration looks more healthy, and is less extended.

20th.—Better.

26th.—Gradually improving in health;

throat better; can now swallow with less pain.

During the months of May and June the patient has been gradually gaining strength, and the ulcer closing: she can now take solid food without much inconvenience, but the voice is only a whisper. She has been again placed under the influence of mercury, during which the voice is much more distinct; but, as soon as its action ceases, the old state of things returns, and the voice is as weak and low as before.

Remarks.—In the preceding case I am of opinion that the best course to have followed would have been to have performed tracheotomy at the first favourable moment after admission. It was evident that the inflammation, and probably the ulceration, extended into the larynx: the complete aphony, the tumefaction, and pain upon pressure in the left side of the larynx, go far in proof of that view of the case. It was scarcely possible to conceive a worse state of things, in a condition like hers, than the existence of constant laborious respiration, increased many times a day almost to suffocation. It is a matter of astonishment that it had not destroyed life, and the fact that it did not was no proof that the operation of tracheotomy was not, under all the circumstances, the best course to have followed. In itself, it is not a dangerous operation; the vast majority of cases in which it has been done have been successful in as far as the operation is concerned; but it is usually done when the mischief has gone too far to be relieved by any means. In the present case it would have left the parts at rest, and given the means used a fair opportunity of assisting in their restoration.

The ulceration was always decidedly syphilitic in its character, but on her admission the irritability of the surface was so great, and the bodily strength so broken, that I thought it better to give her the Decoct. Sarsæ, to introduce mercury by small inunction, and apply it in the form of fume upon the ulcerated surface, hoping that it might allay its irritability. The good expected did not result from the plan; matters then became urgent; and Mr. White preferred the very vigorous use of the bichloride to tracheotomy. On the second day, when she had taken nine grains, the deleterious action of the remedy upon the system was developed, but there was a remission of the urgent local symptoms; and from that time there has been a gradual amendment: there have been many severe drawbacks, but relief has been afforded by mercury in some form. It is surprising how strong a hold syphilis possesses on some constitutions, how difficult it is to eradicate it. In this case generous feeding, sarsaparilla, iodide of potass, were fully tried, but without success; and even mercury, which has always been useful, it has been found necessary to repeat again and again.

At present the breathing is quiet; deglutition is now performed without pain; there is some little chronic inflammation left; and there are indications of restoration of the voice. She is able to take exercise every day in the open air, and may now be regarded as convalescent.

George Johnson, æt. 53, admitted into Mark ward, Feb. 28th, under Mr. White, suffering from extravasation of urine. About a week before admission, after having drunk to excess, he had retention of urine, which was quickly followed by pain and swelling in the perineum, and inability to move. On examination, there was a hard tumor occupying the left side of the raphé from the penis to the margin of the anus: it is very painful to the touch, and when he moves. The urine passes freely; pulse low and weak; no appetite.

Ordered to apply warm fomentations, and to take the following mixture:—

℞ Liq. Amon. Acet. ℥j; Sp. Æth. Nit. ℥ss.; Mist. Camph. ad ℥vj. M. cap. ℥j. 4tis horis.

March 1st.—Has had several attacks of shivering during the night, but there is no fluctuation. To take at bed-time—

℞ Hyd. c. Cretâ, gr. viij.; Pulv. Ipecac. Comp. gr. xij. ft. Pulv.

2d.—Much the same as yesterday, but very low.

Rep. Pulv. h. s. s. et Ol. Ricini, ℥vj. cras mane.

Several incisions were made by Mr. Phillips into the swelling, and a considerable quantity of pus and urine escaped.

3d.—Urine having escaped into the cellular tissue of the scrotum, incisions were made in several parts of it. Pulse very low and weak; skin of a yellowish hue all over the body; and, notwithstanding the extravasation, he passes his urine by the natural passage without pain or difficulty.

℞ Vin. Rub. ℥ij. 6tis horis; and yeast poultice to the scrotum.

4th.—Fresh incisions were made to-day, the urine having infiltrated the whole of the scrotum. He is very low; the skin is now become of a dark jaundiced colour; there is occasional delirium and insensibility, and when roused he complains of numbness in the lower extremities; the fæces pass unconsciously.

Ordered Gin, ℥j. 3tis horis; and as much beef-tea as he can take.

℞ Hyd. c. Cretâ, gr. vj. 4tis horis.

5th.—Is much the same as yesterday: a considerable quantity of urine has escaped both by the urethra and the incisions.

Continue the Gin and the Hyd. c. Cretâ; and take at bed-time, Hyd. c. Cretâ, gr. viij.; Pulv. Ipec. Comp. gr. x.

6th.—Passed a good night, and is much better; the bowels have not acted since yesterday.—Cont.

7th.—The whole of the integuments of the scrotum and perineum are in a sloughing state. Urine passes freely.

9th.—Continues to improve. Bowels rather confined.

To take a dose of Castor Oil, and continue the Hyd. c. Cretâ.

10th.—Bowels relieved twice by the oil naturally.

13th.—Improving.

Cont. Med. mutton chop, and gin, ℥iv.

16th.—Has not been quite so well the last two days, being hot and feverish; slight headache.

Ordered—a saline effervescing mixture, and to repeat the castor oil.

20th.—Is a good deal better; bowels regular, and passes urine freely, although in a small stream.

Cont. Med.

24th.—General health much improved, the sloughs are beginning to separate, and he is free from pain.

Omit half the gin, and take Oj. of porter daily.

28th.—The slough has completely separated, and left a clean healthy wound; appetite good, and passes urine freely by the urethra.

April 1st.—Going on well. A small catheter was passed down to the stricture, but could not be got into the bladder. He is now able to get up for a short time during the day.

5th. — Rapidly improving in health; wound granulating.

8th.—Doing well; catheter passed into the bladder, and allowed to remain several hours.

11th.—Doing well.

15th.—Doing well.

His health was gradually re-established, and the wound quite healed when he left the hospital in May, with directions to attend twice a week for the purpose of having the catheter passed.

Remarks.—The point of interest about this case is, that except for five or six hours the patient has always been able to pass his urine freely: not so much so as when in health, but sufficiently so to empty the bladder, and the calls to do so were not very frequent. Still it is evident that a diseased and contracted state of the urethra did exist, and that the urethra did give way during the complete retention, which occurred after his debauch. It is the practice of some surgeons to treat such cases by introducing a catheter whenever the patient requires to pass his urine; of others to let the catheter remain in the urethra, in order to prevent it passing by the wound, and thus establishing a fistula. That course was not followed in this instance, because the urine passed freely by the urethra, but little escaping by the wound; and because the man's condition seemed so desperate, that the irritation of frequently passing or wearing a catheter would be a much greater evil to him than allowing some urine to pass through the wounds. Gradually the whole of the urine passed by the natural channel; and before any plan of dilatation was put in use, the urine had ceased to escape through the perineum.

COMPLETE EXTIRPATION OF THE UTERUS BY LIGATURE,

AFTER CHRONIC INVERSION OF THE ORGAN.

By Dr. John M. Esselman, of Nashville.

A lady, 32 years of age, married 14 years, had been in bad health ever since the birth of her first and only child, twelve years previously to Dr. E. being consulted. She had been attended in her confinement by an old woman; her labour was a protracted and painful one; she had flooded profusely, and was very ill for several weeks after her confinement. After she was able to leave her bed and walk about the house, she was much annoyed by "*bearing-down pains*," as she called them, in the region of the womb, extending up in the direction of the lateral ligaments of that organ. She had also suffered much from pain and weakness of the back, and also from pain and a numb sensation down the inner portion of the thighs, and had been a prey to fluor albus ever since she had left her bed of confinement. The menstrual discharge was often very profuse, indeed alarmingly so; that she would be confined to her bed for weeks, take medicine to check the hæmorrhage, &c.; then she would be put on the use of tonics, to strengthen her system, as well as to correct the fluor albus. At length she was advised by her physicians that she was labouring under prolapsus of the womb, and underwent the routine of treatment in such cases; but all to no effect, except the relief she invariably obtained from the horizontal position.

Disheartened by the little relief she received, she went to Nashville, where she consulted a

distinguished practitioner, who diagnosticated a polypus, and he applied a ligature, which was productive of such alarming symptoms that he removed it. Various other medical men were consulted, but without relief being afforded.

When Dr. E. was consulted, he found her in a deplorable situation; she was labouring under hectic fever, had profuse night sweats, hacking cough, and all the symptoms indicative of a rapid decline. On examination, he found a tumor oocupying the vagina, about the size of a large pear, and answering in every respect the description usually given of a polypus. The vagina itself was very irritable and much ulcerated, so that it was impossible to make a very minute or satisfactory examination. However, from the history of the case, and the opinions of other medical men who had examined it previously to himself, in some of whom he had the utmost confidence, he concurred with them that it was a polypus. But being at that time a young practitioner, having been but two years in the profession, he requested that some other physician should be called in to assist him in the operation. An intelligent practitioner was accordingly called in, who took the same view of the case; and after a few days of preparatory treatment, a ligature of saddler's silk, well twisted and waxed, was applied; a full dose of camphor, laudanum, and hartshorn having been administered two hours previously. The tightening of the ligature gave great pain, and the dose of camphor, laudanum, and hartshorn was repeated. For the first four or five hours she was very much prostrated, and her pulse sunk to a mere thread; she, however, then became composed, reaction took place, and she rested tolerably well the first night. The ligature was tightened every morning for eighteen days, at which time it came away, and, to the surprise of her physician, instead of a polypus, the tumor proved to be the uterus itself, much reduced in size by ulceration and strangulation. The vagina was much ulcerated, and emitted a very offensive sanious discharge, for which frequent injections of a solution of chloride of lime were ordered, and a solution of nitrate of silver was applied to the ulcers. The general system was sustained by tonics, such as the muriated tincture of iron, phosphate of iron, quinine, &c., and a generous diet, when the absence of febrile excitement would admit of it. She was a long while recovering, and did not leave her bed for months after the operation, but finally was restored to perfect health. For the first twelve months after her recovery she required frequent bleeding and purgatives to relieve headache and a tendency to vertigo, as well as a general plethora of the system, occasioned, Dr. E. thinks, by the "premature suspension of the catamenial secretion."—*Western Med. & Surg. Journ.* Aug. 1843; quoted in *American Journal of Medical Science*, Jan. 1844.

THE BANAT FEVER IN HUNGARY.

Temesvar is the most important town in the whole Banat,—the principal place of residence of the Servian nobility of the province, and the head quarters of the Banat fever. All along the road I had been told, "When you come to Temesvar you will see what the fever is. The people there creep about with pale faces, and almost every one you meet is an invalid." This account I found literally true. At the very entrance of the town I met a waggonful of these poor fever-sick people, who, I was told, were going outside the town to look for a certain herb, supposed to be more efficacious as a cure for the fever, than all the doctors' medicines. After driving through a long suburb, and across a broad marshy glacis, I at length reached the inner kernel of the fortress, and stopped at a very excellent inn called "The Trumpeter," whence I went to pay a visit to an official personage, to whom I had a letter. His valet came to me with a slow heavy step, and a dejected look, and begged I would be so good as to call the following day, as his master had the fever, and was just then in a paroxysm in bed. I asked what was the matter with himself, that he seemed so cast down? "Ah, sir," he replied, "I've got the fever too." From this house I proceeded to another, where lived a lady, to whom I was charged, by some friends in Vienna, to pay my respects. "Oh, sir," said the waiting-maid, "my lady has had the fever these three years, and she is just now at her worst." Opinions are very various as to the cause of this distressing malady. By some it is ascribed to the fruit, especially to the water-melons; by others to the bad water; by others to the marshes, where arise that other plague of the country, the gnats. The latter opinion seems the most probable, when the position of the town is considered. It lies, notwithstandiug its name, not on the Temes, but on the Vega, in the midst of the many marshes which the latter stream forms. In summer, the heat is suffocating, and for weeks together there is sometimes a perfect calm. An attempt has been made to remedy the evils by means of a canal, twenty German miles long, which serves not only to drain the country, but from Temesvar downwards is used for the purposes of navigation; but one canal is quite inadequate to meet the extent of the evil. The country must be intersected in every direction, like Holland or Egypt, before any good can be

done. In this extremely hot summer the fever had been dreadful. The inner fortress of the town felt like a baker's oven, and the air was so close and sultry that a person coming in from the country could scarcely breathe in it. The great majority of the population had been attacked by the malady, and even those who were said to be free from it felt more or less unwell. Of the two thousand soldiers of the garrison, nine hundred were in the hospital in one week, and there they had to lie or stand, and get through the fever as well as they could. The garrison became at last so enfeebled that it was found impossible to get through the ordinary duty. This Banat fever exhibits itself under forms as various as the gourds and melons that grow in the country. With some the attacks occur every day, with others every night. In some cases it appears as an intermittent fever, but the attacks return sometimes every second day, sometimes every third or fourth day, and these are said to be the severest cases. The symptoms also vary in almost every instance, some being attacked the very day they enter the city, others not till they have lived in it a considerable time. A journey to Pesth will often rid a man of his fever, but this rule is liable to exceptions, as there are persons who have left the country, and yet retained their fevers for years. During the first days of my stay at Temesvar, I could absolutely find nobody who was free from fever, so I resolved to employ some time in rambles about the city and environs.—*Kohl's Austria, English translation*, p. 307-8.

SECTION OF THE EIGHTH PAIR.

M. Bernard has instituted some new experiments upon this interesting physiological question. Having previously established a fistulous opening into the stomach in the subjects of his experiments, he could observe with great advantage all that happened on the division of these nerves. His conclusions are—1st, that division of the pneumogastric nerves is followed by the extinction of all sensation and motion in the stomach; and more than this, by a complete arrest of the secretion of gastric juice. 2dly, by an entire suspension of the digestive function; pieces of meat put into the stomachs of dogs whose pneumogastrics had been divided were found twenty-four hours afterwards totally unchanged. 3dly, in the absence of the gastric juice, spontaneous changes take place in the food in the stomach.—*Comptes Rendus, Académie des Sciences*, 27 Mai.

IMPORTANCE OF CHEMISTRY.

Formerly the chemist went to the soap-boiler, to the tanner, to the manufacturer and artizan, whereas at present the soap-boiler, the tanner, the manufacturer, and artizan, frequent our universities; because they know that it is science alone which can furnish them with the master-key, the magic spell, the "open sesame," to unlock all the mysteries of their pursuits. Just as at the present day the influence which the application of chemistry will exercise upon the solution of physiological and pathological emblems, is by many physicians considered worthy only of ridicule, so formerly were the advantages derived from chemistry to arts, manufactures, trades, and agriculture, when first indicated, only laughed at by those who were pleased to call themselves *practical men*.—Liebig, *in Lancet* of June 29th.

NEW FELLOWS OF THE COLLEGE OF PHYSICIANS.

Drs. Plenderleath (of Ramsgate), Forbes, Conolly, Ramsbotham, Cursham, Hughes, Rees, and Guy, have been elected Fellows of the Royal College of Physicians.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Gentlemen admitted Members on Friday, July 5.—H. F. Middleton.—J. H. Llewelyn. G. C. H. Hitchings.—J. Mitchell.—D. J. Allen.—J. Ozanne.—R. J. Loch.—N. S. Glazebrook.—J. E. Hebblethwaite.—C. W. Hope.—J. H. Smith.—T. Blatherwick.

MORTALITY of the METROPOLIS.

Deaths from all causes registered in the week ending Saturday, June 29.

Dropsy, Cancer, Diseases of Uncertain Seat	105
Diseases of the Brain, Nerves, and Senses..	160
Diseases of Lungs and Organs of Respiration	227
Diseases of the Heart and Blood-vessels	30
Diseases of Stomach, Organs of Digestion, &c.	84
Diseases of the Kidneys, &c.....	13
Childbed.....	5
Paramenia.....	0
Ovarian Dropsy	0
Disease of Uterus, &c.	4
Arthritis.....	0
Rheumatism	4
Diseases of Joints, &c.....	2
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.....	0
Old Age or Natural Decay.....	49
Deaths by Violence, Privation, &c.....	69
Small Pox	51
Measles	19
Scarlatina	60
Hooping Cough	13
Croup	5
Thrush	4
Diarrhœa	10
Dysentery	4
Cholera	1
Influenza.....	0
Ague.....	0
Remittent Fever	0
Typhus	39
Erysipelas	1
Syphilis	0
Hydrophobia.....	1
Causes not specified	4
Deaths from all Causes	964

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JULY 19, 1844.

ON

MILITARY HYGIENE,

AND PARTICULARLY UPON

THE CLOTHING OF SOLDIERS.

By Frederick Roberts, Esq.
Assistant-Surgeon 59th Reg.

(For the London Medical Gazette.)

As the subject of the physical condition of soldiers has hitherto received little attention, I propose to offer a few remarks upon one of the most interesting problems in the range of medical inquiry.

The observations about to be embodied will not bear with them that demonstration which statistical documents convey upon many points; the opportunities, documents, materials which could afford me the information, being, I regret to say, beyond my reach. Without indulging in conjecture, it will be attempted to be shown, however, upon physiological and anatomical principles, that the dress of the British Infantry soldier exerts an injurious influence upon the health of the man. In considering the dress of the soldier as one of the agencies which contributes to his ill health, I must observe that it is not so much the dress, *per se*, which I consider so injurious, as it is the peculiar position and nature of the occupation under which it is worn. If worn by other members of the community, it might not be so hurtful as it is to the soldier, whose occupations make it prejudicial to the wearer. In inquiring into the influence of the dress of the soldier upon his health, it must be examined under the circumstances of his various duties and positions; but as these are so manifold and dissimilar, I can but slightly notice them without some digression, which it will be best to avoid, and on another occasion make them subjects of separate inquiry. The physical condition of soldiers is materially different from that of the labouring man generally, and the ill effects of it are greater than they would be upon the civil community, which is not subject to the same legislation as the military.

It will be remembered that, under the most favourable circumstances, mortality and ill health are greater in the army than in any other community. It is wrong, therefore, to suppose that misery (in its usual sense), with its accompanying privations, is one of the most influential causes of mortality, as it is needless to say, however anomalous it appear, that soldiers are *not miserable*. To suppose that soldiers recover from syphilis without mercury, through the strength of their constitution, is equally a fallacy. They are neither strong nor healthy. Of the select troops of the British Army serving at home, 40 out of 1000 are constantly sick; 26 out of 1000 are, on the average, among the same, annually invalided as unfit for service, and out of 1000 chosen men of the household troops and foot guards, 18, on the average, annually die.

In reviewing the several physical relations of the soldiery, it will be seen that the laws of physiology are more violated in regard to them than to any other community, and that their health and lives suffer more from enactments in opposition to the structure and functions of the human body. Towards the amelioration of the physical condition of the soldier, I believe the most beneficial and practicable step that could be taken would be the improvement of his dress. The changeable and irregular mode of life of the soldier must satisfy us that his body is necessarily more than usually exposed to the operation of various natural agents, with which we are constantly surrounded, and which exert an unceasing influence in the production of disease. To give a lengthened exposition of the influence of the physical agents on the animal economy is not my intention, as, indeed, it is not necessary; but to show to what varying intemperatures the soldier is subject, I shall give a brief sketch of the routine of his ordinary duties.

The soldier will generally, if not always, be seen in the barrack-room with his jacket open, employing himself in the morning in making up his bed, and preparing for parade, &c.; after which his destiny is so various that I must follow him somewhat particularly. In a dress inimical to the natural motions of the muscular, respiratory, circulatory, and cutaneous systems, in hot, cold, wet, or windy weather, in the tropics or cold regions of the north, he falls in on parade, undergoes inspection, and executes manœuvres for a period varying from fifteen to sixty minutes on ordinary occasions; but when large bodies parade, this period often extends to two or three hours. On sentry, he is, to a more or less extent, liable to exposure to a hot sun in a tropical climate, and perhaps to severe cold at night; at any rate to extremes of temperature. In other climates nearly the same exposures await him. When relieved off sentry, he goes into a guard-house, sometimes crowded, and finds himself obliged to go out for fresh air again. At night, or in cold weather, he is perhaps unable, by walking to and fro, to keep up his natural heat, the constrained position of a sentry under arms being unfavourable to the preservation of his warmth. After relief at night, he falls into a sleep in this chilled state on the Guard-room bed, consisting of bare boards, and awakes with a cold or rheumatism—his power of generating heat to resist the effects of direct and continued application of cold being least energetic whilst asleep. When on guard, which he mounts for twenty-four hours, "no soldier or officer is on any account to take off his clothing or accoutrements." Again, after a drill or a march, in heavy marching order, he is seen immediately to strip off his coat, or to throw it open, and to employ himself in some sedentary work, as cleaning his fire-lock, accoutrements, &c., whereby he is further exposed to the influence of cold, which has great effect upon the body, which, from a state of active circulation and perspiration at drill, &c. relapses into that of passive quietness and repose. Exclusive of the irregularities he may cause himself to be exposed to, the very nature of his occupations renders him liable to every vicissitude of weather. The well and the badly-behaved are equally exposed, but the latter particularly so: when found drunk, the soldier is put into a dark and often damp cell for the night; and upon conviction of crime, he is probably sentenced to the same dungeon for an indefinite period, or to drill in heavy marching order, carrying upon his person some sixty pounds weight, the greater part of which is lashed about his chest by numberless straps, for periods varying from two to six hours daily, and from one to forty days. In military prisons, upon a scale of diet lower than in civil houses of correction, his present undress is not capable of supporting a sufficient degree of warmth in his system.

Before entering into a description of the dress of the soldier, and its injurious tendencies, it must be mentioned that, as the soldier seldom complains, it cannot be hurtful. He is seldom able to judge of its qualities. Because glaring mischief is not perceived to follow *instantly* every breach of an organic law, it is no wonder that we should suppose there is no harm done; and because the thing is constantly before our eyes, that it cannot be bad. "Men seldom inquire into things constantly before their eyes. Habitual acquaintance prevents that curiosity which is one of the greatest incentives to knowledge." Although there are agencies from which we shall never be able to protect ourselves, yet attention to different safeguards may ensure tolerable health; as is seen from the diminished mortality since the increase of knowledge of physical science.

That the defective clothing of the soldier is the chief cause of his ill health, will, I think, be made evident; but to suppose that it alone gives rise to so much disease is not maintained. Consequent upon the physical relations of the soldier, his defective clothing bears the greater share in the production of disease. To assist him in his duties, his habitation must be good, dry, and properly ventilated, and his diet nutritious; against defective habitation, and indifferent diet, the principal preservative appears to be an efficient dress. And the deteriorating influence of duties may better be obviated by attention to the clothing of the soldier than any alteration in his habitation or diet. To suppose that the existence, and degree of virulence, of an epidemic depends upon some one hidden cause, exclusively, is unphilosophical: the history of medicine shews that not only may the influence of an epidemic be modified, but often materially avoided, by attention to physical comfort. The crews of some ships of war have been known to avoid the yellow fever for long periods in the West Indies, by recourse to the precaution of wearing flannel, and by attention to other healthful means suggested by intelligent commanders.

It would be interesting to inquire into the relative prevalence of consumption in those well and badly clothed; but even supposing this ascertained, it would not settle the question, inasmuch as the generation of heat in the body would not be in proportion to the amount of clothing worn, but in the ratio of exercise taken by the individual in his occupation, to insure freedom from mischief to the lungs in the way of congestions and partial chronic inflammations of the pleura, &c. It is a fact, however,

that those whose circumstances are the best in the world, or whose circumstances are such as to protect them the better from cold, are the most free from tubercular disease. Sir James Clark says that "there are certain trades which are unfavourable to the occurrence of phthisis; among these, seamen, butchers, and tanners, hold the first rank. It has been imagined that there is something in these occupations which has a special effect in preventing the development of tubercles, arising, in the one case, from impregnation of the atmosphere with saline particles; in the other, from peculiar properties in the atmosphere when impregnated with effluvia from dead animal matter or living vegetables. We have no belief in the special effects of such agents, but refer the exemption of these classes chiefly to the free and regular exercise in the open air which they enjoy." The occupation of sailors is such as secures to them a tolerable degree of warmth; they are on watch for four hours at a time; during this period it is seldom, in wet and blowy weather, that they have not some work to exercise their frames and prevent chills; and when not so employed, a sailor walks smartly up and down the deck, wrapped in a P-jacket, and is not restrained from freedom of action, altogether impracticable to a soldier on sentry, and who, with a fire-lock, is bound to observe a certain prim carriage and formal demeanour, in a constrained dress, little calculated to resist the impression of cold. The sailors of the Royal Navy are prone to acute catarrhs, from sudden but short exposures to cold, which do not degenerate into organic lesions, from their facility of exchanging their dress soon, and from their not being subject to the *passiveness* of habit of the soldier. Butchers are as well dressed as other people, lead a bustling life, do not stand much in the same position, have exercise for the greater part of the muscles of the body, plenty of air, and are protected from the wet: they are eminently in a position to resist cold. Tanners work with their coats off and shirt-sleeves tucked up, have their upper extremities in constant action, move about, are under cover chiefly, and their systems are favourable to *re-action* when exposed to the impression of cold. Smiths are observed to be exempt, in a great measure, from consumption—the result, probably, of keeping up constant action in the skin by the exercise of the arms, and by the warmth of habitation, and never being chilled, when working more leisurely, by reason of the heat of the smithy.

Women are more subject to consumption than men, a circumstance attributed by the learned "chiefly to lacing the chest." Although I believe this to a considerable extent, I am sceptical as to its being the sole reason of the difference in liability to phthisis. Women, from difference of formation, I conceive not to suffer so much from lacing the chest as from exposure to cold by the nature of their dress, which partially exposes their chests, and but indifferently protects their lower extremities. Add to this, likewise, their *passiveness* of habits. Tight lacing prevails more in the higher and middle classes of life, but consumption in the lower, who are worse clothed. Whether, amongst the majority of the women of England, any alteration of form occurs in the frame from lacing, is a question that cannot be answered, but I am inclined to say no. There is greater facility of motion in the respiratory process in the female than male, from looser and slighter disposition of muscle about the bony structure of the chest, and from the relative larger capacity of the abdominal cavity—all permitting easier expansion of the lungs than in the male. The tight waistband, the braces, and close-fitting coat of the European male, I contend is but a trifle less injurious than the corset of the European female: in the former, elevation of the chest during respiration is impeded a good deal, and expansion suffers in some measure. In persons already diseased in the chest the injury is obvious. In the female, elevation is not so much arrested, but expansion is, and produces, in my opinion, not more injury than the united effects of imperfect elevation and expansion in the male. In Mahommedan countries, where men and women wear garments of thick material, and cover the chest well, but not constrictedly by tight coats and stays, pulmonary consumption appears to be a rare disease. In Dr. Holt Yates' Report of the British Dispensary in Syria, out of 4298 admissions of all diseases, only 284 cases of pneumonia and bronchitis occur, and none of phthisis! In England and Wales, in 1838, the Registrar-General shews that 27½ per cent. of the total deaths were owing to diseases of the respiratory organs!

Sir George Lefevre, in his book upon the advantages of thermal comfort, says that it is proved by the bills of mortality that one-fifth of the population dies of consumption in the British Isles, whereas the deaths in northern latitudes are *infinitely fewer* from that disease*. Whence this anomaly, that cold—being, as we believe it to be, the great exciting cause of such maladies—should have so little influence upon human life where it prevails in so great a degree? The secret is to be found in the fact that cold, in the northern realms, spends its fury upon vegetable life and inanimate matter, so that only certain species of plants can resist its influence.

* Sir George Lefevre practised a long time in St. Petersburg.

"That animal life would as soon perish is equally evident, but animal life is not exposed to it. The bear, covered by his non-conducting and impenetrable fur, covers himself up under warm leaves; the hare buries himself in the snow, the wolf finds holes, and the fox procures dens; and domestic animals, and those which are necessary to man, are provided with warm habitations. The human species is protected by clothing which once protected the animal from the same influence. It is not correct to suppose that the Laplander and the Samoide are impervious to cold, or become accustomed to it: that is an error. They are more susceptible of cold than the inhabitants of more temperate zones; but they do not expose themselves to it. This circumstance surprises strangers during their first winter's residence in Russia; they are astonished to find the natives enveloping themselves in warm clothing at the commencement of autumn, when their own moderately warm dress proves quite sufficient for *them*. What astonishes them at the commencement ceases to do so in time. As they sojourn longer in the climate they feel the cold less, inasmuch, only, as they are better provided against it. They do not get accustomed to the *cold*, but to the *custom of the natives*, who never brave it but by dire necessity.

He further remarks, that the peasant does not resist the cold from constitutional animal power, but from artificial protection against its influence. The Russian peasant's hut is insupportable to those who are unaccustomed to such indoor temperature. Those in easier circumstances sustain the cold, on quitting their warm rooms, by enveloping themselves in fur-pelisses, whose non-conducting qualities will neither suffer animal heat to escape, nor cold to penetrate from without. "Heat breaks no bones," is a Russian proverb, used when your rooms are accused of being warm.

At the Cape of Good Hope, where consumption is a rare disease, the natives wear leather and flannel clothing. The soldiers, who are nearly equally free from consumption, wear leather trowsers, and probably flannel like the natives. The duty of the soldier in this colony differs much from what it is in garrison towns—the men are detached in small bodies along the frontier chiefly, and their night duty is only patrolling—a work which may keep them out of bed a good deal perhaps, but certainly not more, if so much, as when in garrison; and a sort of work which is more active, and not so prone to chill the body as standing on sentry, and sleeping on the boards of guard-beds in clothes and accoutrements. Exemption from tubercular disease at the Cape is not, however, solely attributed to the superior clothing and nature of duty of the soldiers; but it is necessary here to notice the facts. "What keeps the warmth in keeps the heat out," is a proverb among the Boors, who wear their thick clothing even in hot weather.

It has been mooted lately that phthisis finds its antagonism in marsh miasma. The Boors are descendants of the Dutch, who inhabit a marshy country. It would be curious to ascertain whether the Dutch in Holland wear thicker clothing than their neighbours, and thus derive, in part, their exemption (if they do) from consumption, and which is too evidently possessed by their descendants at the Cape.

It would almost appear that I should advocate natives of a cold climate to be more free from consumption than those of a warm one, when I mention that the ratio of deaths, among soldiers, from consumption, is less in North America than at home; but it is to the very superior clothing of the soldiers in the Canadas that this must be attributed—they being there provided on the approach of winter with "two thick flannel shirts or waistcoats, two pair of flannel drawers, a pair of cloth overalls, fur cap, woollen mits, galoshes, or mocassins, and in the lower provinces, a thick cloak to be worn over the great coat when on duty."

The cavalry at home are less exposed to inclemency of weather, and are better clothed than the infantry; the former being generally provided with flannel waistcoats and drawers, which are not supplied to the latter.

Major Tulloch's Report shows the difference of mortality in the cavalry and infantry to be as follows:—

	Per 1000 of Strength.
Household Cavalry	14·5
Dragoons and Dragoon Guards	15·3
Foot Guards	21·6
West India Depôts	18·5

The ratio of deaths from diseases of the lungs, per 1000, in these different troops, is as follows:—

Household Cavalry	8·1
Dragoons and Dragoon Guards	7·7
Foot Guards	14·1
West India Depôt	9·6

It is interesting to remark that rheumatism should be less frequent in the Canadas than in the West Indies, the Cape of Good Hope, and at home. The following from Major Tulloch's Reports shews the relative prevalence of the disease in the different commands:—

Annual ratio of admissions with rheumatism, per 1000 *of mean strength.*	
Upper and Lower Canada	40
Windward and Leeward Islands.	49
Cape of Good Hope	57
United Kingdom	50

The prevalence of rheumatism at the Cape is exactly what we should expect from the nature of the patrolling duty, which renders the men liable to be affected by sudden cold and wet. But as this cold and wet is of short duration, and does not chill the body for any *continuance*, and by walking smartly the body is capable of *reacting* quickly, and so keeping up tolerable warmth in the skin, which sympathises so much with the lungs.

Instances of the effect of cold upon animal life may be greatly multiplied. It is proverbial that invalids in returning from warm countries die very numerously in approaching the colder latitudes, and when storms and cold weather happen at sea. It is further an ascertained fact, that negroes, monkeys, and parrots, on coming into cold climates, die greatly from tubercular diseases.

Organic diseases, as consumption, structural derangement of the heart, large vessels, liver, intestines, &c., are of frequent occurrence among soldiers. They are observed to be so predominant that Dr. Davy remarked their prevalence among diseases of soldiers, and broached the idea of an "*organic constitution*" in certain seasons and years. If the inquiry was further extended, I think that this *organic constitution* (if it may be so called) of Dr. Davy's would be found *always* to prevail in the army. Soldiers die from diseases foreign to those they are admitted under*. Examinations after death discover the alarming extent of tubercular disease, as is observed in the Necrological Journal at the Invalid Depôt at Chatham, and in regimental records.

Diseases of the liver are more prevalent in soldiers than sailors of the Royal Navy; but in neither service are they supposed to be a source of much inefficiency. Reference to the autopsies made in the army I think would show that many men, who die under the head of another disease, say intermittent and remittent fever, dropsy, &c., suffered from diseased liver, and which probably killed them. Taking, however, the present returns to be correct, and to show that I have some reasons to believe that more soldiers die tubercular than supposed, I have to mention that there is great connexion between phthisis and hepatitis. In 49 cases of fatty degeneration of the liver, Louis found that 47 were phthisical.

Organic diseases of the brain, heart, and large vessels, are of frequent occurrence among soldiers, as will be seen from the tables of their diseases. When the opportunity arrives, I purpose shewing more positively that this is the case, and to shew how far they may be referrible to physical causes, capable of being modified. This, however, I must postpone till I enter upon another subject in illustration of the physical history of the soldier.

Without noticing what influence the auxiliaries of bad ventilation, crowded habitations, and intemperance, may exert, the peculiar posture of soldiers, their confined dress, occasional violent exercise in tight clothes, with cross belts and knapsack, are eminently calculated to prevent free exercise of the pulmonary organs, to diminish the powers of the system, to impair the nutritive functions, and are fully adequate to produce premature senility, which is so conspicuous in the soldier, and which may be regarded as a constant effect in a greater or less degree.

The effects of direct application of great heat to the head, soldiers are liable to, from having little or no rim to the cap, and from the constriction which the same article of dress exerts round the head, he has often suffered from coup-de-soleil; at other times, the foundation of organic derangements about the brain, or its membranes, have certainly been laid. In one action in China, thirteen men of one regiment, lately arrived from home, and which entered the field buttoned up to the throat with leather stocks and forage caps on, fell down dead.

[To be continued.]

* As this, I am sure, occurs to a great amount in the army, and as the name of the disease is not changed in the returns, considerable uncertainty in the character of the statistical evidence of Army Medical Reports must exist.

REPORT
ON THE
ROYAL MATERNITY CHARITY.

By F. H. Ramsbotham, M.D.

(For the London Medical Gazette.)

[Continued from p. 487.]

During the year 1843, there were delivered in the Eastern District of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham,—

2002 *women—Of which cases,*

23 were twins—about 1 in every 87 cases: of these in 15 cases both heads presented; in 6 the presentations were head and breech, or some part of the inferior extremities; in 1 both were feet; and in 1 the feet and the shoulder. In 10 of these cases both children were boys; in 6 both girls; and in 7 of different sexes. One of these children was delivered by "turning" two hours after the birth of the first. It was born living.

1037 children were males.

988 children were females.

1977 were presentations of some part of the head, of which 8 were face presentations—about 1 in every 253 births.

42 were presentations of the breech, or some part of the inferior extremities—about 1 in every 48 births; of these 9 were twins.

6 were transverse presentations at full time—being 1 in every 337½ cases; they were all delivered by "turning." Of these 1 was a twin, still-born. Two others were born still; with 1 the funis prolapsed; the other was the third transverse presentation the woman had had out of 14 children.

In 1 case the placenta was implanted entirely over the os uteri; the child was "turned," and born living; the uterus contracted well, and the flooding ceased; the patient seemed to be going on very satisfactorily for 21 hours, when she was suddenly seized with a return of the hæmorrhage, without any assignable cause, and died in seven minutes.

6 were complicated with alarming hæmorrhage before the birth of the child, *not* the result of placental presentation—about 1 in every 334 cases. One of these was a breech case, premature; the others were at full time. One of the patients died three hours after the child was naturally expelled; there had been excessive hæmorrhage, which ceased on the membranes being ruptured; the child was born dead; she did not lose any blood after, but never rallied. One woman was delivered by "turning;" the child was saved; all the other children were expelled dead by uterine action; the hæmorrhage being restrained by evacuating the liquor amnii. With the exception just mentioned, all the women did well.

In 7 the placenta was retained within the uterus, either by atony or irregular contraction of the uterine fibres, or by morbid adhesion between the uterine and placental surfaces, requiring the introduction of the hand for its removal—about 1 in every 282 cases; one of these was a twin case; one woman died on the 8th day after delivery from inflammation of the lungs; another on the 17th day, from an old pulmonary disease which had existed eight years.

8 were complicated with alarming hæmorrhage after the natural expulsion of the placenta—about one in every 250 cases. In one case both the child and placenta were expelled before the arrival of the midwife. In another the patient was going on very well till the 9th day, when, after making some unusual exertion, she was seized with a copious flooding, and fainted. It soon ceased, and she did well. One woman died in five hours of internal hæmorrhage.

4 were delivered by craniotomy—about 1 in every 500 cases; two of these were face presentations; one a first child; in both the head was so wedged in the pelvis that neither the forceps nor vectis was of any avail. One woman was perfectly exhausted by starvation; the pelvis was rather distorted. She could not be restored, and died on the 6th day. In the other case the pelvis was narrowed at the brim; it was the woman's third child; both previous had been born living after very lingering labours. The membranes had broken 40 hours when I delivered her, the head was entirely above the pelvic brim, and there were tolerably sure indications of the child being dead.

7 were delivered by the forceps; one by the long, and 6 by the short instrument; about 1 in every 282 cases. Where the long forceps was applied it was the woman's fifth labour; she had once borne twins; her labours with that exception had been lingering; the membranes had broken 27 hours, the principal part of the head was above the pelvic brim, which was not more than three inches in diameter; neither ear could be felt; the face was to the right sacro-iliac symphysis. One blade was applied over the right brow, the other behind the the left ear. The child was born living, and the woman did well. In two of the cases where the short forceps was used, the woman had had children before; in each there was a small pelvis, and a cicatrix in the vagina, the result of previous sloughing; in one the cicatrix was divided by a scalpel before the forceps was applied; in the other it gave way under the action of the instrument; both these children were born living; two other of the children were also born living; the other two dead. All the women recovered.

1 was complicated with a rupture of the uterus; the woman had had a family; there was not a small pelvis; the head presented; she died rapidly, before the district surgeon, who had

been sent for, could arrive. Dissection proved that the child and placenta had both passed into the abdominal cavity. Besides these cases one woman suffered a transverse rupture in the cervix uteri, under the expulsion of a blighted ovum about the size of a doubled fist. She believed herself near her full time, and had been the subject of hæmorrhage for a fortnight; as it increased, and she was in much pain, the district surgeon was sent for, who removed the ovum from the vagina. In doing so he detected a rent, and sent to me. I felt the ragged edges also distinctly; it appeared to extend almost across the whole of the neck; I could distinguish the posterior wall of the bladder most easily; but it appeared to me that the peritoneum was not implicated. The woman recovered without suffering much from inflammatory symptoms. I never met with such a case before, and I confess I do not comprehend how it could have occurred: the woman had had a family; the uterus had not exerted itself greatly, and the ovum could not have afforded much resistance in its passage; but both Mr. Burchell and myself were perfectly satisfied that there was a large laceration, and that it was above the os uteri.

11 women died either from puerperal causes, or within the puerperal month —one in every 182 cases; only 8, however, as a consequence of labour—being one in about every 250 cases; for one died of confirmed phthisis, another of pulmonary disease of long standing, which was characterized as "asthma," and one of scarlet fever.

1953 children were born living.

72 children were born still—one in about every 28 births.

Of the Deaths,

3 were from the effects of hæmorrhage: one twenty-one hours after delivery under placental presentation; the flooding had ceased, and she appeared safe; it returned violently, however, and she died in seven minutes. One three hours after natural delivery under accidental hæmorrhage. One five hours after delivery of a dead child. There was no external flow, but the uterus relaxed and filled.

1 on the sixth day after delivery by craniotomy; the woman sank exhausted from previous starvation.

1 from ruptured uterus, suddenly, before any assistance could arrive.

1 from peritonitis, eleven days after delivery.

1 from pneumonia, eight days after delivery; there had been an adherent placenta.

1 from "asthma," from which she had suffered for eight years, on the seventeenth day after delivery.

1 from pneumonia, a month after delivery.

1 from confirmed phthisis, a fortnight after labour at seven months.

1 from scarlet fever, three weeks after delivery; she caught it of her children, who were all ill with it, before she went into labour.

Of the still-born children,

21 were premature.

7 were putrid, at full time, or nearly so.

6 were breech presentations, at full time, or nearly so.

3 were transverse presentations at full time, or nearly so.

4 were delivered by craniotomy.

2 were delivered by the forceps.

1 was after the uterus had burst.

6 were under very lingering labour.

4 were after violent accidental hæmorrhage.

With 7 the funis prolapsed by the side of the head.

With 1 the funis prolapsed by the side of the breech.

1 was after the mother had suffered an accident.

9 were at full time, not putrid, nor delivered by art; there being no assignable cause for their not being born living.

ON CERTAIN POINTS
IN THE
MECHANISM AND PHYSIOLOGY
OF THE
CIRCULATION OF THE BLOOD.

By George Robinson,
Fellow of the Royal Medical and Chirurgical Society, &c.

(For the London Medical Gazette.)

[Concluded from p. 493.]

I may, however, previously remark, that, by thus referring the active absorbing power to the streams of blood, we are at once furnished with a satis-

factory explanation of the fact, that the circulation through a part is necessary for the occurrence of an appreciable amount of absorption.

In answer to the first question, I may repeat the statement incidentally made when speaking of the conditions essential to absorption, viz. that this action is confined to the terminating portion of the capillaries and the small veins. In support of this opinion may be mentioned,—

1. The indirect evidence constituted by the facts and arguments adduced in the first part of this memoir, in order to shew that an effusion of certain portions of the blood is constantly occurring through the coats of the small arteries and contiguous portion of the capillaries; and if this conclusion be a correct one, it is evident that no *active* absorption can be proceeding in the same.

2. I have attempted to shew, by imitative experiments, that every circumstance connected with the arrangement, structure, and relations of the veins, is calculated to favour the absorbing power of the streams of blood by which they are traversed. Thus I found that, with a membranous tube and an ascending stream, absorption could only be obtained by copying, as closely as possible, *every* peculiarity observed in the veins of animals; and while engaged in devising an apparatus which should rudely represent some of the contrivances employed by nature in her most elaborate works, I could not resist the conviction that, if it were possible for man to construct an arborescent system of minute membranous tubes, similar to the veins of animals, the streams traversing which should possess the same physical properties, follow the same converging course, and be in every respect subjected to the same physical conditions as the blood contained within the veins, then the same physical result, viz. the rapid absorption of any external fluid, would most undoubtedly be obtained.

3. Fodera, who watched the process of absorption under the microscope*, observed the coloured substance to appear, first in the most minute venous radicles, and then in the larger veins.

I have before remarked, that the absorbing power of streams is *cæteris paribus* proportioned to their velocity; and, as connected with the point now under consideration, I may refer to the interesting fact, that natural philosophers, from reasoning upon the physical arrangement of the system of blood-vessels, long since concluded that the point where the blood flows with the greatest velocity is at the commencement of the veins*.

The next question, viz. as to the means by which the passage of fluids into the interior of the blood-vessels is accomplished, involves an examination of the nature of the absorbing power exercised by all rapid streams; and in the following brief explanation of this action, I have endeavoured to limit myself as closely as possible to the relation of such facts as appeared best calculated to render intelligible the process of vascular absorption in animals.

It is well known that a fluid in rapid motion does not press equally in all directions, its lateral being invariably less than its onward pressure; for if those forces were at all equal, every liquid jet, instead of contracting somewhat after escaping from an orifice, should represent more or less of the appearance of a rapidly diverging cone.

As before mentioned, it has also been proved by the experiments of Venturi and others, that when a rapid stream traverses a short conical tube, the whole surface of that stream possesses the power of drawing into the tube any stagnant fluid with which (by means of a lateral opening) the interior of that tube may communicate; and in repeating these experiments with a strong jet, I have found the same ascent and influx of the external stagnant fluid to occur, whether the communicating glass tube were fastened to the upper, or lower, or lateral, surface of the main pipe.

In explanation of this phenomenon, it may be stated, as a general principle, *that all bodies, while in a state of rapid motion, possess the power of carrying with them the contiguous particles of any surrounding stagnant fluid.* Thus a jet of liquid, or one of gas, or a rapidly revolving wheel, or any pro-

* Recherches Experimentales sur l'absorption et l'exhalation, par Michel Fodera, page 26. Paris, 1824.

* "L'endroit où il (le sang) doit se mouvoir avec le plus de rapidité c'est à l'origine des veins." (Musschenbroek, Essai de Physique, t. 1, p. 392. Leyden, 1739.)

jectile, will each speedily cause a current of the surrounding air to flow in the same direction.

I have even found that, on holding the orifice of a glass tube at a right angle to the surface of a strong jet of water, the ascent and discharge into the stream of the liquid into which the other end of the glass tube dipped took place with the same rapidity as when the jet traversed a rigid pipe*. Hence it appears that a stream can exercise an active absorbing power without necessarily entering any kind of pipe; for it is merely necessary to bring the orifice of the connecting tube in contact with any part of the surface of the stream, inasmuch as the absorbing power exists throughout the whole extent of the moving column. A strong blast of air, directed across the orifice of the tube, caused a similar ascent of the coloured liquid in the other arm.

Now if, instead of an open jet thus made to sweep across the orifices of a great number of tubes held at right angles to it, we suppose a similar current of liquid to flow along a vessel the walls of which are perforated by innumerable small apertures, it can then be readily understood that the stream, in crossing the orifices of all these minute lateral tubes, will exercise the same power of drawing through them any stagnant fluid with which they may communicate externally. In this point of view, the pores situated in the coats of the smaller blood-vessels may be regarded as so many minute short tubes, the internal orifices of which are directed nearly at right angles to the streams of blood, and the external orifices of which are in contact with the various substances absorbed.

The statement that all moving masses possess the power of inducing a corresponding movement of the fluid particles immediately surrounding them, being thus capable of direct proof, it now only remains to be shewn *that the entrance of an external fluid into the interior of a tube traversed by a rapid stream depends upon a diminution in the amount of pressure acting on the internal surface of that tube.*

The ascent of stagnant liquids observed in the experiments of Venturi has very justly been referred to atmospheric pressure, or, in other words, to diminished pressure *within* the tube traversed by the stream; and that this is the true explanation of the phenomenon is proved by the following among other reasons.

1. To ensure the success of the experiment all the joinings of the apparatus must be perfectly air-tight; otherwise the ascent of the stagnant liquid will be very limited.

2. The same stream which drew up a column of water to the height of twenty inches, raised mercury to the height of one inch and a half only, which elevations bear to each other very nearly the same proportion as the specific gravities of these two liquids.

3. The following experiment, performed by Hauksbee, at the commencement of the last century, is interesting, not only for the clear light which it throws upon the present question, but also from its establishing for this country the credit of the first discovery of this particular property of currents.

A quantity of highly compressed air was made to pass through a pipe, which by means of two lateral branches communicated with the cisterns of as many barometers, one of which was placed at the distance of three feet from the main pipe.

"The result of which was, that this rapid current of air so lessened the pressure of the atmosphere upon the stagnant mercury in the cisterns of the respective barometers, that the mercury was made thereby to descend at least two inches. Nay, that barometer which was three feet distant from the aerial stream was equally affected as the nearer one." "And it is further observable, that as the force of the current of air diminished, so the weight of the atmosphere recovered its strength again, and forced the mercury in the barometers to a gradual ascent*." This experiment was undertaken with the view of discovering the cause of the descent of the mercury in barometers during a storm. And I may add, that the few remarks which the author makes upon the probable influence on the animal body of a diminished atmospheric pressure, are, so far as they

* A detailed account of this and some analogous experiments was contained in a paper lately read before the Royal Society.

* Physico-Mechanical Experiments, by F. Hauksbee, F.R.S. 2d Edition, London, 1719. pp. 114 and 115.

extend, very much in unison with the physiological principles advocated in this communication.

It is therefore evident, that the entrance of an external fluid into the interior of a porous tube traversed by a rapid stream, is a consequence of the pressure then acting on the internal surface of that tube being less than that of the surrounding medium.

When the tube is exposed to the air, and a quantity of this gaseous fluid is absorbed, the pressure of the atmosphere is evidently the sole cause of the phenomenon; but when liquids are absorbed, the weight of the external stagnant column co-operates with that of the atmosphere in effecting absorption.

In the animal body, this external pressure—the *immediate* cause of absorption—varies much in different parts, both as to its degree, and also as to the nature of the particular forces constituting it.

Thus, in the lungs, the weight of the atmosphere is the only force that can act on the exterior of those minute blood-vessels through which absorption is known to occur with extreme rapidity; whereas the whole contents of the abdomen are, in addition to being subjected to the action of the ordinary causes of external pressure, forcibly compressed by the diaphragm and abdominal muscles. By the contractions of the alimentary canal, the nutritious matters are, moreover, forced against the walls of the blood-vessels ramifying upon the intestinal coats.

This latter fact—viz., that in that particular part of the body where the absorption of food is effected, there exists throughout the animated creation an express contrivance for increasing the pressure acting on the exterior of the blood-vessels—does appear to me to constitute a very powerful argument in support of this view of the nature of the absorbing process. And when, in the treatment of disease, a more active absorption is desirable, experience has shown that there is no more effectual mode of accomplishing this object than by increasing the external pressure in the affected part. It is, of course, requisite that the external force applied should never exceed a moderate amount; otherwise the circulation through the part, and with it all absorption, would be totally arrested; whereas a more gentle support not only facilitates absorption *directly*, by forcing the surrounding fluids into the interior of the blood-vessels, but, by diminishing the diameter of the latter, and thus increasing the velocity of the currents of blood, it also adds *indirectly* to their absorbing power.

I have made no mention of the manner in which absorption might be supposed to be effected by the lacteals and lymphatics because it appears to me very doubtful whether those vessels really possess any *active* absorbing power of their own. On the contrary, the information already possessed on the subject of absorption, the intimate connection shown to exist between the rapidity of the circulation of the blood and the activity of the absorbing process, the dependence of the latter on the former action, and the absence of any adequate mechanism in the so-called absorbent vessels, all tend to invest with probability the opinion—which was, I believe, first advanced by my friend Mr. Fenwick*—viz., that the substances contained in these vessels are derived from the adjacent blood-vessels by a process of effusion analogous to secretion.

It might to some appear improbable, that in a system of continuous tubes like the blood-vessels, through the walls of which, in the earlier part of their course, effusion has been shewn to occur, the opposite process of absorption should nevertheless be enabled to proceed throughout the rest of their extent. To meet this difficulty, I may briefly relate three experiments—one performed with a rigid, another with an elastic and yielding, and the third with a membranous tube—in order to shew that, when a stream encounters an obstacle in the middle portion of a tube, effusion necessarily occurs through any lateral openings situated behind the impediment, while absorption will, in accordance with the principle illustrated by one of the experiments to which I have referred, proceed with increased rapidity through the apertures placed on the other side of the obstacle, viz., nearer to the discharging orifice.

Exp. III.—A leaden pipe, a yard long, and half an inch in diameter—the central part of which had previously been much curved—was fastened

* Med. Gaz., July 21st, 1843—vol. xxxii. p. 605.

horizontally to a reservoir, and two small apertures were made on its upper surface at a short distance from either end of the curved portion of the tube. On passing a stream of water through it, the impediments, constituted by the existence of these lateral curves, caused a small jet to escape from the aperture placed behind the latter, while a rapid absorption of air, or of any other stagnant fluid with which it communicated, took place through the opening situated nearer to the discharging orifice of the pipe.

Exp. IV.—A piece of the aorta of a horse, eight inches in length, was fastened horizontally to the reservoir, and two bent glass tubes, one arm of which dipped into a coloured liquid, were inserted into two of its lateral branches situated at a distance of four inches from each other, all the other lateral openings being carefully closed. The central portion of the pipe was now grasped at a point equally distant from the insertion of both glass tubes, and its calibre there considerably diminished, so that the stream would in the first instance pass from the wide to the narrow portion of a conical tube, and subsequently from the narrow to the wide part of a similar tube. Under these circumstances a copious effusion occurred through the glass tube communicating with the first portion of the pipe, and an active absorption through that leading to its second division.

Exp. V.—The perforated membranous tube used with the apparatus described under Experiment 2, being held horizontally in the open air, and slightly pressed at one point, effusion occurred through the lateral apertures behind that point, while numerous globules of air entered those situated nearer to the escaping jet.

It will, I trust, now be considered as proved, that the active power employed in the animal body for the performance of absorption resides in the currents of blood which incessantly traverse the veins and terminating portion of the capillaries. This opinion, like that of Magendie, rests upon the fact of the permeability or porosity of the walls of the smaller blood-vessels; but it differs from his in withdrawing the substances placed in contact with those pores from the sole control of powers with which we are not well acquainted, and in substituting for the latter the more general and intelligible cause of fluid motion; viz. unequal pressure.

I agree with Sir D. Barry in thinking that the relative vacuum formed within the thorax during the act of inspiration, greatly assists the process of absorption. But I contend that it does so *indirectly* and *mediately;* viz. by increasing the rapidity, and facilitating the passage of the streams of blood traversing the veins.

As giving a concise view of the general action of the causes producing effusion and absorption, it may be stated that effusion is promoted, 1st, *directly*, by whatever *increases* the amount of pressure acting on the *internal* surface of the blood-vessels; and 2dly, *indirectly*, by whatever *diminishes* the pressure acting on their *exterior*. While absorption is rendered more active, 1st, by whatever *directly increases* the amount of *external* pressure; and 2dly, by whatever increases the rapidity of the currents of blood, and thus *diminishes* the pressure acting on the *internal* surface of the absorbing blood-vessels.

Part III.

Being an attempt to inquire how far the entrance of certain gases into, and the discharge of others from, the interior of the blood-vessels may be accounted for on the general principles of effusion and absorption.

It now only remains to inquire how far the same views are applicable to the explanation of those functions in animals which consist in the extrication and discharge of certain gases from, and the absorption of others into, the mass of circulating blood. Here the doctrine of capillary attraction is confessed to be incapable of explaining the phenomena*: they are therefore generally referred to the mutual penetrability of gases.

That the extrication of carbonic acid in the lungs is materially facilitated by this property of diffusion, I can readily believe; but are we to suppose that this discharge of carbonic acid from the blood occurs equally in *every part of the pulmonary vessels*, and that the absorption of oxygen in like manner takes place with equal activity in the minute arteries and veins, and throughout the whole extent of the capillaries of the lung? There are many recorded

* Magendie, Journal, t. 1, p. 16.

observations which militate strongly against such a supposition. And as many of these phenomena are perfectly explicable by the general principles of effusion and absorption, I may, perhaps, be excused for now briefly noticing some of the more important of them. It was shewn by Lower, not long after the discovery of the circulation, that the change from venous to arterial blood takes place during the passage of the former fluid through the small vessels of the lungs. Subsequent experiments have proved that this change consists essentially in the discharge of carbonic acid from, and the absorption of oxygen into, the mass of blood. And as the blood circulating through the lungs does not present the bright red colour of arterial blood till it has entered the small pulmonary veins, this circumstance alone justifies the presumption that the absorption of oxygen by the blood is effected in this part of its course.

The property of mutual diffusion possessed by gases, is useful, not only as facilitating the discharge of carbonic acid gas through the lining membranes of the lung, but also from its enabling us to explain why that discharge is not general throughout the body, and why it only takes place on a free surface; where the external pressure is inconsiderable, and where the surrounding atmosphere presents a species of vacuum into which the imprisoned and compressed gases may freely expand. But it does not throw any light upon the means by which gases are *absorbed* into the blood. And I shall now mention some reasons for thinking that the absorption of gases is effected in the same manner as that of liquids, viz. by a preponderance of the pressure acting on the exterior of the absorbing blood-vessels.

1. That the absorption of oxygen in the lungs takes place in the terminating portion of the capillaries and the small pulmonary veins, is, to say the least, rendered highly probable by the above-mentioned observation of Lower.

2. The general absorbing power of the healthy lung is extremely active; so that any poisonous substance brought in contact with its lining membrane produces its effect upon the system almost instantaneously.

3. Atmospheric air, or any other gas injected into the cellular tissue of the body is, if the quantity be moderate, speedily absorbed.

4. It is fully proved that streams of liquid possess the power of absorbing, through the lateral apertures of the containing tube, any gaseous fluids that may be in contact with the exterior of the latter. I have also found that this absorption will occur through an intervening layer of animal membrane.

Since, then, all other rapid streams, while traversing porous tubes, possess the power of absorbing any external contiguous gases, since that power is shewn to be possessed by the streams of blood passing through the systemic blood-vessels, and since the general absorbing power of the pulmonary blood-currents is known to be extremely active, it appears to me impossible to resist the conclusion, that the entrance of gases into the mass of blood circulating through the lungs takes place in the same part of the blood-vessels, and is effected in the same manner, as the absorption of liquids.

This view is moreover supported by some experiments by Leroy d'Etiolles, and related by him in Magendie's journal*. He found that on causing animals to breathe highly compressed air, and thus increasing the external pressure acting on the blood-vessels of the lung, the absorption of that air was so rapid, that the whole mass of blood not unfrequently became quite frothy.

And the whole of these considerations also tend to prove the correctness of the opinion in part entertained by Sir H. Davy†; viz, that the atmospheric air is, in the lungs, absorbed as such (for we know of no power by which the oxygen could be taken into the blood-vessels and the nitrogen rejected); that the oxygen of the absorbed air combines with certain portions of the blood during the systemic circulation, and that the residual nitrogen is, with the carbonic acid, discharged through the walls of the exhaling portion of the pulmonary vessels.

It is known that the opposite change from arterial to venous blood depends upon the presence of carbonic acid in the latter fluid; and it is generally believed that this change is effected in

* Journal de Physiologie, t. 8, pp. 106 and 109.
† Researches concerning the Nitrous Oxide. London, 1800. pp. 429, 447, 449, &c.

the systemic capillaries and minute veins, by the absorption of various products resulting from the decomposition of the tissues. Among other matters carbonic acid is of course copiously generated, and by its absorption the change of colour is produced. In like manner, when the main artery of a limb is tied, the blood which enters the trunk below the ligature, and which has necessarily passed through minute anastomosing branches, is immediately found to possess the colour of venous blood. Now this blood has evidently been placed under nearly the same physical conditions as the blood contained in the veins; for to arrive at the lower portion of the main artery, it must have traversed two systems of arborescent tubes; in the first of which the streams diverge, and in the second converge.

Those streams, therefore, which flow in the same course as the currrents contained within the veins, exercise the same property of absorption; whence the change of colour resulting from the entrance into the blood of a quantity of carbonic acid.

It thus appears that while the absorbing blood-vessels of the lung take in atmospheric air, those distributed throughout the rest of the system receive carbonic acid; which, with that generated in the mass of blood itself, escapes from the exhalant vessels of the lungs.

Physiologists and natural philosophers have long supposed that many of the purposes served in the animal economy by the circulation of the blood are accomplished by the operation of ordinary hydro-dynamic principles.

In the preceding remarks I have endeavoured, through the medium of those principles, to establish an intimate connection between certain important functions in animals and the great discovery of Harvey, viz. the *incessant motion of the blood.* In the course of this attempt I may occasionally appear to have diverged somewhat from my more immediate subject; but these slight digressions, if they should be considered such, may perhaps be pardoned, inasmuch as they constitute an imperfection which must be common to all who seek for a solution of the mysteries of organic life in the simpler, and not less beautiful, laws of inanimate matter.

MR. ROSE ON CŒNURUS AND ACEPHALOCYSTS.

To the Editor of the Medical Gazette.

Sir,

In the Periscope of the last number of the Medico-Chirurgical Review (April, 1844) page 473, appears an article entitled "Researches on the Transmission of Hydatids by Contagion," by Professor Klenke, of Brunswick. The summary which the editor has given of the Professor's observations contains the following remark upon the polycephalous hydatid, or cœnurus. "As far as we know at present, the only species whose habitat is very much restricted, is the polycephalous entozoon, which has hitherto not been found in any other part except the brain." Having, several years since, met with a polycephalous hydatid in a different locality, I beg to refer to my brief account of the circumstance in a paper on Hydatids, published in the London Medical Gazette, vol. xiii. p. 206. After having given a description of the cœnurus cerebralis as found in the sheep, I proceed to state, that "this is the only species of cœnurus noticed by authors, but I have met with another; it infests the rabbit, and I found it situated between the muscles of the loins; it is also met with in the neck and back. This hydatid grows rapidly, and multiplies prodigiously; and, being seated near the surface, it soon projects, and sometimes forms a tumor of considerable magnitude. When the warrener meets with a rabbit thus affected, he punctures the tumor, squeezes out the fluid, and sends the animal to market with its brethren. I possess a specimen of this species in a pregnant state: the earliest visible stage of gestation is a minute spot, more transparent than the surrounding coats of the parent; this enlarges till it projects from the parietes of the maternal vesicle; it continues to enlarge until it becomes a perfect hydatid, attached by a slender peduncle only; even whilst small, other young are seen sprouting from it, and so on in a series of three or four. My specimens exhibit them in every stage of growth—from a minute point to a vesicle the size of a hen's egg. As I can see no difference of structure between this hydatid and the last-mentioned (cœnurus cerebralis), I am unwilling

to consider it a different species; for surely a varying locality ought not to constitute a specific character."

A more recent dissection of a rabbit furnished me with the following observations:—The cyst enclosing the hydatids was situated in the cellular tissue uniting the common integuments to the fascia covering the lumbar and dorsal muscles; the fascia was the floor of the cyst; the cyst was formed of condensed cellular membrane; it was divided into three or four compartments communicating freely with each other; the cyst, for the more part, laid above the muscles, but at the fore part of the trunk it was covered by the *panniculus carnosus*, and had also extended under the *subscapularis* muscle, between the latter and the muscles covering the ribs. The largest compartment of the cyst contained two hydatid *vesicles*, each as large as a St. Michael's orange, besides numerous others attached to each other, and many unattached, from the size of a pin's head to the larger magnitude above mentioned. On the large *vesicles* young hydatids were forming, *more particularly among the vermiculi;* all projected externally, I saw no *internal offspring* attached or unattached. On reference to Rudolphi's work, "Entozoorum sive Vermium Intestinalium Historia Naturalis," Vol. II. Part 3, p. 301, I find that he describes but two entozoa as infesting the rabbit—tænia pectinata, and cysticercus pisiformis, the habitat of the latter being the peritoneum. The mammalia stated by the same author to be subject to the cœnurus, are the giraffe, African antelopes, sheep, and the ox; and in every instance the habitat of this parasite was the brain (op. cit. pages 302-3).

Now that I am on the subject of hydatids, I will embrace the opportunity of mentioning a very recent dissection of a monkey. The animal had long suffered from cough and dyspnœa, and at length died, in consequence of the impossibility of sufficiently expanding the lungs for vital purposes, the cavity of the chest being so extensively occupied by a colony of hydatids inhabiting the lungs. Upon the death of the animal it was sent to me for inspection, in compliance with my request. The examination of the cavities of the thorax and abdomen brought into view an extraordinary development of acephalocysts. In the lungs I observed seven large cysts containing hydatids, the largest as big as a golden pippin; the liver also was occupied by several, and one large cyst lay upon the right kidney enveloped by the peritoneal coat of that viscus; a few were developed in various parts of the omentum and mesentery, and some were loose in the cavity of the peritoneum. I opened one peritoneal cyst, it contained several hydatids, varying in size from that of a pin's head to that of a filbert; the same cyst also contained what appeared to me to have been a larger vesicle (probably the parent vesicle), which had burst and fallen into folds.

Within the enclosing cyst, formed of either the pleura or peritoneum, I found in most instances from ten to twenty acephalocysts, of various magnitudes, some as large as a pullet's egg; in a few instances a solitary vesicle was met with occupying a cyst. The parasitic vesicles were invariably developed immediately beneath the pleural or peritoneal covering of the viscera, and did not appear to implicate or enter into the parenchymatous structure of either viscus, the liver and kidney being perfectly healthy, as also were the lungs, with the exception of a general emphysematous state; the laborious breathing of the animal having, without doubt, ruptured numerous air cells.

In elucidation of the structure of the acephalocysts, and confirmatory of what has been stated by others, I observed that the first visible effect of decomposition was a separation of the *inner* layer of the vesicle, closely studded with minute spherical bodies (gemmæ?): this layer fell into folds, and floated in the fluid of the vesicle. The fluid also contained an abundance of these bodies, which under a powerful microscope exhibited the forms of nucleated cells. Upon further decomposition the parietes of the vesicle could be separated into four laminæ at the least.

I take this opportunity of recording that in the course of my professional career I have witnessed three instances of the expulsion of parasitic hordes from the lungs and the liver of the human body, followed by the ultimate recovery of each patient. The first case occurred in 1828, in which the patient, a shepherd's wife, ex-

pectorated hundreds of acephalocysts, occasionally accompanied with hæmoptoe; she still lives, enjoying tolerable health; suffering chiefly from dyspnœa.

The second case was that of a tradesman's wife, labouring under chronic enlargement of the liver: in the summer of 1833 suppuration took place in that viscus, with adhesion to the abdominal parietes; late in July the abscess burst externally, and on August 12th my patient presented me with two hydatids which had passed from the opening; one had burst in its transit, but the other I was highly gratified to find uninjured, and a beautiful specimen of echinococcus hominis. Afterwards, more escaped with numerous acephalocysts; and about Christmas 1835 the sinus closed. No return of the disease took place; she regained tolerably good health, which she retains at the present time. In the third case, a farmer's wife experienced a circumscribed tumor on the right side of the abdomen, extending from the false ribs to the pelvis, and approaching nearly to the umbilicus; it was rather compressible, with but little tenderness. The patient had long been out of health, suffering chiefly from dyspepsia: at this time (February 1836) she was troubled with a cough. She called my attention to the tumor early in March, from which time it daily became softer in its centre, and by the 31st of the same month fluctuation was very distinct; there was also considerable symptomatic fever. About a month from this period the tumor began sensibly to diminish in size, and at the same time a copious purulent expectoration came on. In the first week of June, during a fit of conghing, she threw up an hydatid, unbroken, and about the size of a large pea; I was sitting by her bed-side, and saw it pass from her mouth; it fell upon the counterpane, from whence I took it; from this time, at intervals, she continued to cough up a considerable number, of various sizes, some as large as a nutmeg, but all broken. At the latter part of June and beginning of July she evacuated *per anum* large portions of dense semi-opaque membrane, of tender texture, resembling dead hydatid, accompanied with a considerable quantity of pus: by the 22d of July, nothing could be felt of the tumor with the exception of a slight thickening in the site. This patient slowly but progressively regained her strength, and is still in the enjoyment of excellent health. No explanation of the symptoms in the above case is necessary, as the causes of the highly interesting phenomena are sufficiently obvious.

I am, sir,
Your obedient servant,
C. B. Rose,
Fellow of the Royal Med. and Chirurg. Society of London, &c.

Swaffham,
June 8th, 1844.

INJECTION OF THE UTERUS

AS A MEANS OF EXPEDITING AND FACILITATING DELIVERY.

A FARMER in the neighbourhood of Edinburgh, son of a late eminent surgeon of that city, and well known to the editor of this journal, frequently had cows in great distress during their accouchment, and now and then perhaps, like other farmers, he lost a cow in the act of parturition. On one occasion, when a poor animal of considerable value had been suffering for a very long time, and there was every prospect of an unfavourable issue to the affair, as it seemed inevitable that the creature must die undelivered, the owner hurried into Edinburgh, distant about five miles, and took counsel with the eminent veterinary professor, Mr. Dick, as to the course to be pursued.

At the suggestion of that gentleman, he, with all the expedition possible, threw into the uterus from six to eight quarts of tepid water, the animal's hind quarters being previously elevated by a bundle of straw, so as to aid in preventing the return of the water. The instrument employed in the injection was the flexible tube (in fact, that used for the stomach pump), attached to Read's patent syringe, which was easily introduced over the shoulder of the fœtus, the muzzle and fore-feet of which had been ascertained to be presenting at the commencement of the labour. The liquor amnii had completely escaped at a very early stage, and it was fully twenty-six hours afterwards before Professor Dick's excellent and ingenious advice was applied. But after the injection the calf was felt floating freely in the cavity of the womb. The animal, however, was so totally exhausted, that there still seemed no hope of the calf being expelled by the natural efforts.

Nevertheless, within five minutes after the injection of the water, a vigorous pain came on, and the patient was speedily and safely delivered of a live calf, and sustained no other ill consequences than a few days' weakness, the natural effect of her previous suffering.

Our friend mentioned this very ingenious plan to a neighbouring surgeon-accoucheur in large practice, who was so much struck with its simplicity and apparent safety, that he resolved to adopt it on the first favourable opportunity. An occasion soon presented itself, in a case where nothing but the long forceps could have effected the delivery of the sufferer; and shortly afterwards in a second instance, where turning and delivery by the feet would have been indispensable to save the patient's life.

In both cases the injection of about a quart of tepid water was attended with complete success; the patients were both delivered of living children by the natural efforts, without any unfavourable symptoms ensuing.

We have gathered these particulars from the owner of the cow, the gentleman who, with his own hands, made practical application of Professor Dick's valuable suggestion, believing that the procedure indicated is new, free from danger in itself, and likely in many cases to obviate the necessity for more formidable and painful operations.

DR. BUCHANAN ON FIBRINE AND ITS TRANSFORMATIONS.

On the fibrine contained in the animal fluids, the mode in which it coagulates, and the transformations which it undergoes. By ANDREW BUCHANAN, M.D., Professor of the Institutes of Medicine, University of Glasgow, pp. 11. (The Proceedings of the Philosophical Society of Glasgow, No. 7.)

THE most novel part of this paper is the announcement that the fibrine existing in the blood and other animal fluids, does not, as is generally supposed, exist in them in a state of solution, "but exists while yet within the body, already solidified and organized in the form of granules and vesicles; and that the process of coagulation consists, simply, in the aggregation of these minute granules into a mass visible to the naked eye." This view of the matter seems to be very nearly allied to that long since promulgated by Sir Everard Home, and more recently by M. Milne Edwards.

Dr. Buchanan believes that "the solid and liquid portions, of which the circulating blood is seen to consist under the microscope, is the very same as the solid and liquid portions into which the blood, after being drawn, spontaneously separates; that the whole coagulum, or part which affects the solid form after being drawn, existed previously within the blood-vessels in the solid form; that during the coagulation of the blood there is no mysterious precipitation of a solid previously held in solution, but that the process of coagulation consists simply here, as in the cases already mentioned, in the aggregation of granules and globules previously existing diffused through the serous liquid, but not cohering; and that the only peculiarity in the coagulation of the blood consists in this, that some of the solid corpuscles, by the aggregation of which the coagulum is formed, are red, while others are transparent, and that the latter possess a much higher cohesive power than the former. It follows, if these opinions be correct, that the term "*liquor sanguinis*" should be banished from physiology, as conveying a whole series of erroneous ideas as to the constitution of the blood.

It has been shewn, by the researches of Magendie, Gulliver, and Addison, that a clot of fibrine is constituted of a network of filaments or fibrils, besides the corpuscles; and these fibrils, as figured by Gulliver (App. to Gerber's Anatomy, plate xxviij.; Lond. and Edin. Phil. Mag. for August and October 1842) and Barry (Phil. Trans. Part 1, 1842), are of extreme minuteness, and have no appearance of being formed by an approximation of corpuscles visible by the microscope in fluid blood. Besides, in Mr. Gulliver's figures, the accuracy of which Dr. Barry bears testimony to, the fibrils seem to constitute the mass of a clot of fibrine; so that it seems hardly possible that they could have been formed by the aggregation of fibrinous globules and granules previously existing in the fluid blood, in which simple process Dr. Buchanan

regards coagulation to consist. However, the question is an interesting one, deserving of further inquiry, which may be aided by a reference to Dr. Buchanan's paper, in which many more observations and arguments are recorded than it would now be convenient to extract.

The theory of Schwann, that reticular tissues are formed by the division of vesicles elongated into filaments, Dr. Buchanan dissents from, as he believes that the reticular form "depends on the arrangement of the vesicles in relation to each other, which, whether they retain their vesicular shape, or become filamentous, always affect a reticular arrangement."

The inadequacy of the cell theory to account for the fibrillation of fibrine has not escaped the observation of former writers: thus, Mr. Gulliver (Lond. and Edin. Phil. Magazine for October 1842) asks, "how is the origin of the fibrils which I have depicted in so many varieties of fibrine to be reconciled with the doctrine of Dr. Schwann? And what is the proof that these fibrils are not the primordial fibres of animal textures? I could never see any satisfactory evidence that the fibrils of fibrine are changed cells; and indeed, in many cases, the fibrils are formed so quickly after coagulation, that their production, according to the views of the eminent physiologist just quoted, would hardly seem possible. Nor have I been able to see that these fibrils arise from the interior of blood-discs, like certain fibres delineated in the last interesting researches of Dr. Barry."

On the subject of pus, Dr. Buchanan believes that it "is never formed, as many maintain, in inflamed vessels, and secreted from them," but that the effused serum is gradually converted into pus. This is in accordance with the observation of Autenreith (Diss. de Pyogenia, 114), who states that he has observed pus globules to be formed between layers of talc, in the watery liquid obtained from a wound, and subjected to the atmosphere of that wound, while he could see no such globules produced in the same liquid completely removed from the body.

Dr. Buchanan thinks that, in ordinary circumstances, it is probable that no fibrinous corpuscles originate in the sanguiferous system; which statement may be compared with that at the head of this article. The observation made many years ago by Weber, is familiar to every microscopical observer, that colourless globules may be seen in great numbers in the veins of frogs; and the colourless corpuscles of the blood have been known since the time of Hewson. The term "fibrinous globules," however, is a very objectionable one, because it has been applied by M. Mandl to the globules of fibrine, pus, mucus, &c., while by other writers it is used in a more restricted sense; besides, it has never been clearly proved that the majority of the primary cells of morbid fluids are anything else than concreted fibrine. The cell germ, indeed—that molecule—may be fatty, according to Mr. Gulliver's observations in the Edinburgh Medical and Surgical Journal, No. 156. The size of the globules of laudable pus Dr. Buchanan states to be little inferior to that of the blood-globules, or of those of fibrine, which we mention merely to add that it is well known that pus globules are larger than those of blood.

NOTES OF A MESMERIC EXHIBITION.

(For the London Medical Gazette.)

[We have the following memoranda and observations from a gentleman who sends us his name, and in whose good faith and accuracy we have every confidence.—Ed. Gaz.]

The exhibition to which the following memoranda refer, took place at a small concert-room in Mortimer Street, on Thursday, 11th July, 1844, from half-past twelve to two P.M. There were from thirty to forty persons present. The performer (Alexis) was thrown into a state of so-called somnambulism, by his friend, M. Marsillet, merely looking steadfastly at him while seated in a chair. With the exception of the first experiment, during which Alexis seemed to be asleep, all the others were performed while he seemed to a common observer, to be awake, with his eyes (when not bandaged) partially open. He appeared to see, hear, and know what was going on about him, just as any of the spectators. The only peculiarity that struck me was, that the eyelids were only partially open and occasionally quivering.

The following notes were written *immediately* after the meeting. If there be any inaccuracies in them, they certainly do not regard matters of any importance.

1. The left arm was extended in a state of rigidity, not opposing *very* great resistance to downward pressure. The pulse smaller in the rigid arm.—Any one could do this.

2. The legs extended in the same way. A gentleman *partially* stood on them, but not entirely.—Any one could do this with practice.*

3. Playing at *ecarté* with the eyes bandaged. He seemed to play readily and well, winning the game. He also told the cards at times in the partner's hand; but he also repeatedly failed, and made glaring mistakes in his guesses.

The whole of this experiment is vitiated by the doubt as to whether he could see under the bandage. From carefully and most closely watching him, I am of opinion that he saw or might see from under the bandage. I particularly remarked that while the bandages were being placed, he repeatedly touched and shifted them; and before they were removed, I observed most distinctly that he pressed a knuckle forcibly over the bandage into the hollow of each eye, *as if to close the leather that might have been removed.* I also observed that when examining some body presented to him, before the bandages were removed, he placed the body *to one side of him*, exactly as a person would do who was trying to see through a difficult passage.

At any rate, the evident (to me) *possibility* of sight being exercised in the ordinary way, totally vitiates this card-playing as an experiment.

4. The next experiment, after the bandages were removed, was reading in a book *through* a certain number of pages, *i. e.* telling *what words* (two or three) would be found opposite a certain point indicated on the open page, some pages farther on. The experiment was performed on a French book produced from the pocket of a gentleman present, and was repeated three, four, or five times. Being close to Alexis the whole time, and watching him most carefully, and all his proceedings, I am bound to declare that the result was altogether inconclusive as to his possessing the power pretended.

a. In the first place, in no instance were the words named by him exactly under the point indicated on the open page. He hunted over many pages, and was satisfied (as were many of the spectators), if he found the word named *anywhere*, in any part of the page!

b. Secondly, I distinctly observed, *in every case*, that *before* naming the word or words, he turned over the leaves (apparently carelessly and heedlessly, but with his eyes never removed from them) in such a manner, that it was the easiest thing in the world for a person of ordinary sight to see *sideways* into the pages, and thus to catch words. This fact, coupled with the other just stated (*a*), utterly vitiates this experiment. It is also obvious that only *the first* of the experiments *could* be valid, as in searching for the *first words* he had the opportunity of fixing in his mind as many words as he pleased for the subsequent trials. And I observed that he would only look at those parts of the book which he had turned over.

5. The next set of experiments referred to his power of reading words wrapped up in paper, boxes, &c. and of generally indicating the contents of certain bodies presented to him.

The following were some of the experiments and the results:—

a. A gentleman (I believe Colonel Gurwood) presented to him something very loosely wrapped in paper. He felt it, and said it was a box *(boite)*. He then himself removed the paper, and laid the apparent box (a small octagonal body with gilt top,) down on the table. He was then asked what it contained: he said, some characters in writing. While he was saying this (or previously, I don't now recollect which) he had *perfect opportunity*, as the object lay before him and was touched by him, and was constantly looked by him,—I say he had a perfect opportunity of *opening the book* (for such it was), so that he *might* see the characters within it. I cannot say positively that he *did* open it, but any body, not a juggler,

* "The influence of habitual exercise in strengthening any particular set of muscles is remarkably illustrated in the Vaida. I saw one, a young man of a diminutive and spare form, with slender arms and shoulders, use with the greatest ease a bow he had been accustomed to, which one of the strongest of our soldiers could hardly bend." Dr. Davy, Researches, Vol. I. p. 178.—Ed. Gaz.]

might have done so unobserved. He then announced that it was some writing in characters he did not understand. The book proved to be a copy of the Koran in Arabic. This experiment was clearly a failure, first, because *while covered* he declared the *book* to be a *box*, and second, when the paper was removed, there was—to say the least—no *impossibility* of seeing the contents in the natural way.

b. A slip of folded paper was given him. He examined it most closely, putting it to his chest, mouth, &c. and seemed to me cautiously looking for an opportunity of unfolding it, as he turned it over and over, and partially opened it, more than once. My eye was, however, so constantly fixed on his proceedings, that he could not open it unseen, and he did not open it. After an infinite deal of manœuvring, and asking many questions of the lad who gave it him, as if desirous of obtaining some help from his answers, he resigned it, and fairly said he could *not* read.

c. Another paper (it might be the same) he proceeded with in the same way, now often stating, inquiringly, the number of letters (which constantly varied, he sometimes saying six, eight, four, and so on). At last he said it was very difficult, *because it was folded on itself* (plié sur elle-même). He returned it to the lady that it might be unfolded. I went and saw it opened by the lady; *it was not in the least folded.* It was a boldly written word, either "*Londres*" or "*Angleterre*," I forget which.

d. One of these packets while manipulating (I now recollect it was the one I saw opened by the lady) he pricked through with a pin, saying "*he pricked the dot of the i*," and then "the *i* itself." When opened the word contained no *i* !

e. A lady (evidently a strong believer, and very friendly to Alexis) put herself in *rapport* with him, and produced a large box, like an over-grown card-case, or a case for holding a small prayer-book, (opening like a card-case in the middle). He took it in his hands and felt it, and turned it about. He was asked what it contained; he said, after a brief pause, something *gilded* (doré), and then said, a watch (montre), and added, that "what was curious, the glass was broken." The lady was surprised at this, and said it was *not* broken when she gave it him. On opening the box by drawing off the top, sure enough there was a watch on one side, *with the glass next the outside*, and the glass was broken! Nothing could be clearer than that he *might* have broken the glass through the yielding case, or felt the broken glass, or heard or felt the watch *tick*, and thus come at once to know that it was a watch, and a watch with a broken glass! I believe this was the fact, but, at any rate, it must be admitted that such a clear-seeing as this *might* have been accomplished by any body, and therefore the experiment goes for nothing.

f. I had taken half a dozen boxes, and folded papers and sealed envelopes, each containing a French word, so wrapped up as that it was *impossible* to see into them with ordinary eyes. These lay on the table all the time, and I had repeatedly pressed on M. Marsillet to let him try one of them. But some excuse was always made. Meantime, a gentleman came forward with his two hands closed, and requested to be informed what they contained. Alexis took the hands, turned them round, and *I saw him distinctly separate them a little*, so that he *might* have seen what they contained, at least the *colour* of it. He first said, it is a *small thing.* The gentleman said, of course, or it could not be contained within the hands. Alexis then said, it is *reddish* or *darkish* colour, "and, *if broken (cassé), white inside.*" After a long time, and trying very hard by leading questions, to find out something about it, he said it contained *writing* or *printing* (I forget which), said there was a large word with five letters in the centre, and some *arrangement of lines* which I now forget. After a long time, the hands were opened, and were found to contain a small morocco pocket-book, which was certainly reddish outside, and had some white paper and some printed or engraved cards inside. At this time I forget what was on the cards, but I am certain that the "chief" word of five letters was *not* there, and the lines were *not* arranged as Alexis had said. This experiment I regard as also a failure in every respect, except that there *was* something *white* inside. The red colour outside might have been seen; the *white* was POSSIBLY a guess; at any rate, the other mistakes committed are sufficient to neutralize this small suc-

cess, to say the least of it. I therefore maintain that this experiment *proves* nothing.

g. At length, after many attempts, I succeeded in getting a lady (a friend of Alexis, and favoured by him) to take one of my *boxes*, and put him to the test in my own way. She was put "en rapport" with him, but he would not attempt to read the word written within upon finding that *she* did not know what it was. She then went to one side of the room to examine the word, and I just arrived near her in time to see her take from the box the word, and look at it, *surrounded by many of the company. This was done openly*, and though I at once felt that this circumstance was sufficient to vitiate the experiment, as it was *quite possible*, and, indeed, *extremely probable*, that some of Alexis's *friends* might see it wholly or partially, and make him acquainted with it. However, I begged the lady to allow me to replace the word in such a manner that it could not easily be seen, even if the top of the box (a small paper wafer-box) were removed. Well, she returned to Alexis, and gave him the box. He looked at it long, and at last said inquisitively, "un mot de *cinq* lettres!" then seven, then eight, and at last *five* again, adding, "I am now sure it is five." I begged her not to tell, and partly succeeded, though it was obvious she was desirous of *helping* him all she could. At last, he said the word ends with the letters *ion*, and tried hard to get the lady to help him out with the rest. If I had not constantly interfered, I saw clearly that he would have bothered or bamboozled her out of them. He then wrote on a paper *ion*, then tried several prefixes to suit, and at last seemed to settle on *motion*, or some word like this, but one certainly ending in *tion*. Two o'clock having now arrived, I was obliged to depart before the box was opened, but I was thoroughly satisfied that some one of his *friends* had had a glimpse of my word (it was in *large print*), and had told this to him. It was, however, a word not of five, or six, or eight letters, but one of *ten*, viz. "*Discussion.*"

The conduct of Alexis throughout was altogether that of a man who was playing a deceptive part, and looking in all directions for help in his efforts to succeed in what was given him to do. In all his attempts to read the words enclosed in envelopes, he invariably made, in the first place, inquiring guesses as to the word being in writing or print, and especially as to the number of letters; and he and his friends made unconcealed attempts to wheedle the party who gave the word, into conceding something so as to help him in solving the problem. "It is a word of five letters—eh?" "Is it a word of six?—No—it is—eh!" and so on.

Now it is certainly strange that if a man had the power of seeing the word through its covers, he should need such aid, or that such aid could be of any use to him. How can the knowledge of the *number* of letters in a word, or of the two or three first or last letters in a word, help a man to *see* the remainder? Of course, however, it may help him to *guess* them.

When he took the folded papers in his hands, I observed that in his manipulations—placing it to his stomach, &c.—he was frequently seen by me to unfold the edge slightly, just as if he *wished* to unfold the paper completely; and I observed also that he frequently shaded his face with his hand (*as if meditating*) in such wise *as would have enabled him to unfold such papers unperceived by persons at a small distance from him*, although my close watching rendered this impossible in the present case. I regard this as important, as it indicates how deceit may have been practised in other cases, and how apparent success may have been achieved.

It was also evident, throughout the exhibition, that Alexis had several *friends* (I do not call them *confederates*)—but they afforded, in their conduct, the strongest grounds for suspicion that they were such—who took an active part in trying to help him in his difficulties. Among other manœuvres, repeated attempts were made to get the spectators (and myself especially) removed from the table, under the plea that ladies could not see. A Frenchwoman—evidently one of the party—wished me to give one of my boxes to *her*, begging me at the same time to leave the room, as my presence as an unbeliever was hostile to the powers of Alexis, and that *then* she would get him to read the word it contained. Of course, had I complied, there was nothing

to prevent her from opening the box and naming the word to the performer. These, and other things of the same complexion, are not merely suspicious, but shew that, whatever the results might be, they could not be established on, or derived from, pure unquestionable evidence.

From the whole of the exhibition the following conclusions must be admitted:—

1. That the whole affair bore the complexion of trickery, or, at all events, that it wanted entirely the precision requisite in scientific inquiries.

2. That the total amount of positive failures and positive blunders greatly exceeded that of performances having even a colour or slight degree of success.

3. That the failures occurred in cases where the circumstances were such as to exclude collusion and the exercise of ordinary vision.

4. That all the instances of success occurred where circumstances allowed of collusion or ordinary vision.

5. That in all of the cases of success such collusion or vision was either proved or rendered extremely probable.

6. That there was not one single unequivocal example of what is called *clair-voyance.*

7. That, consequently, this exhibition not only affords not one tittle of evidence in favour of the existence of this faculty in the man Alexis, but presents extremely strong grounds for believing that the pretended power in him is feigned, and that he is consequently an impostor.

From what I witnessed at this exhibition, and at another where it was pretended that the so-called somnambulist exhibited the faculty of having the phrenological organs excited individually by mesmerism, I am much more satisfied than I used to be in regard to the probable causes of the extensive belief in the wonders of mesmerism. On both these occasions it was clear that many of the spectators were either totally unacquainted with the laws of evidence, or that their enthusiastic temperament, or previous convictions or prejudices, rendered them, for the time, incapable of appreciating, or of being guided by, such laws. They admitted, as positive facts, what appeared to calm unprejudiced observers, not only not facts, but the merest assumptions, unsupported by a tittle of the kind of evidence required in scientific investigations. It was also evident that there was, among such persons, an endeavour to *help* the exhibitor to get at the results proposed, and an eagerness to believe every thing without question, and with a proneness of faith unjustifiable, and therefore never admitted, in inquiries of a scientific character. A further source of fallacy existed in the circumstances in which the great majority of the spectators were placed, viz. the utter impossibility, owing to their distance from the scene of action, of their seeing *exactly* what took place, so as to enable them to guard against the possibility of mistakes, misstatements, or collusion. These circumstances, taken in combination with the natural tendency of the human mind to believe rather than to be sceptical, and with the proneness of mankind in general to recollect successful wonders (especially in the way of guessing, divining, or prophesying) rather than failures, may, as I have said, help to explain the wide-spread belief in mesmerism, even if mesmerism should be false.

In concluding these hurried notes, I think it right to state that, even now, I only avow myself a sceptical doubter—not an utter disbeliever—as to mesmerism. I am still open to conviction when such evidence of its truth is afforded me as is deemed necessary in any other scientific inquiries. The things I have myself seen most assuredly increase very materially the doubts I before entertained; still I do not regard them as sufficient to prove the utter falseness of mesmerism: they prove nothing more than their utter insufficiency to prove its truth. Even the positive proof of trickery and collusion on the part of its professors, however, would afford no sound reason for declaring it to be false. Like medicine, or any other branch of natural science, it may be true although it be professed and practised by charlatans, cheats, and rogues. Give me the same kind of proofs of *clair-voyance* that I have of other scientific truths, and I will believe it.

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ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue a allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Miscellaneous Contributions to Pathology and Therapeutics: on Rickets, Hydrocephalus, Impotence and Sterility, Pulmonary Apoplexy, and Hæmoptysis. By JAMES RICHARD SMYTH, M.D. Pp. 341.

THIS book is one of the class which is directly opposed to that in which systematic productions, monographies, and prize essays, naturally range themselves. In point of abstract utility these are unquestionably the most useful books. Besides making us partakers—which they may or may not do—of the writer's own opinions, they give us all the information extant upon the particular subject of which they treat. Systematic works, however, are generally very dull books to read; they are in fact unreadable. It would seem that no mere man had the power of sitting down to chronicle events in which he was no actor, and giving an account of views and opinions which are none of his own, with the same amount of interest felt, of interest communicated, as where he has himself been engaged personally and mentally; in order to interest, it is absolutely necessary to be able to say with the pious Æneas, *quorum pars magna fui.* The text must be of the preacher's own choosing before he can make a good sermon; one propounded to him will scarcely strike him at the moment, will hardly chime in with the prevailing mood of his mind; and then he finds that he can fashion it in no wise. It is even the same with books; unless the subject be of the writer's own choosing, and have burnt itself in upon his mind by long cogitation, he will never deal with the matter in a way that will carry the reader along with him. All the most interesting and entertaining books we possess have been produced under these conditions. But then, these books are often very far from being really good or useful books. They are frequently dedicated to the development of a mere crotchet, a whim, a fancy, to some one-sided view, to something that is merely personal to the writer, to something, it may be, that is important and true, to something, it may be, that is really insignificant, and it may be to something that is positively false. Their object is less to inform or instruct than to make the author himself, right or wrong, prevail. It is by their sincerity and earnestness that the writers of such books bear us along with them pleasantly, unhesitatingly; it is often only on coming to the end that we find we have been faring sumptuously—in a dream, that we find the pleasant drink we had been sipping was but froth, and that in the words of the poet—

Des Wissens Durst bleibt ungestillt
The thirst for knowledge still remains unquenched.

These observations we make altogether irrespective of the book whose title prefaces them. The book is an interesting book, and we think an useful one. It is written from various texts, obviously not selected for the author, but selected by him, and that because each several subject had met him in the world and craved his attentive consideration. The work is the record of the writer's views and experience in regard to the several important matters of which it treats.

Dr. Smyth's work consists of a collection of essays on rickets, on chronic hydrocephalus, on impotence and sterility, on pulmonary apoplexy and hæmoptysis, on rheumatic pericarditis and pleuritis, and on false aneurism.

Our author's views of rickets lead him to defective action of the chylopoietic viscera, and particularly of the liver, as its grand cause; he finds an enlarged state of this important organ in every case of the disease, and is "firmly of opinion that the practitioner who will view the infantile affection, now under consideration, (rickets) as one simply of hepatic disease, with more or less aggravated derangement of all the digestive functions, and apply his remedies judiciously in accordance with this view, will be most likely to benefit his patient" (p. 20).

We heartily wish that medical writers would come to some understanding in regard to the employment of the noun scrofula, and the adjective scrofulous. Dr. Smyth allows to both a great latitude of signification, when he says that he "considers the malady of rickets, as regards the softness of the muscles and bones, as nothing else than a scrofulous affection of these parts"

p. 21. This view of course would not satisfy those who would restrict the epithet scrofulous to cases in which there was a distinct deposition of tuberculous matter—an event known not to happen in rickets.

Having regulated the secretion of the liver, and the action of the bowels, by the ordinary alteratives, and gentle or more energetic aperients, Dr. Smyth's grand remedy in rickets is wholesome animal food, in fair, not in large quantity; and when to these we have added country air, and cold bathing, we should say that the treatment of rickets was exhausted.

We are "nothing if not critical," and Dr. Smyth will forgive us if we venture to suggest that the "unsettled opinion" which, at p. 61, he says he has, "that the motion of the blood in the child is slower than in the adult," is almost certainly erroneous. Further, we would have our friend in future to avoid the crowds of expletives which we encounter here and there; as where he speaks (p. 63) of the "*delicate and interesting* young ladies as *constituting* the *beauty*, *life*, and *joy*, and *attractive*, *captivating ornament* and *charm* of society." This makes feeble writing of what would otherwise run smoothly yet forcibly enough.

The next essays are on chronic hydrocephalus, in which Dr. Smyth appears to have been the first in this country to observe a certain "auscultic phenomenon connected with the circulation in the brain, and consisting of an abrupt, rushing, arrested sound, in character between a bruit de soufflet and a bruit de rape; and which he describes under the title of *cerebral murmur*. It would appear that this murmur might occasionally serve as a diagnostic sign of some value. Dr. Smyth gives the particulars of a case of chronic hydrocephalus which he treated by tapping, but unsuccessfully.

The delicate subject of impotence and sterility appears to be treated with great propriety in the 7th, 8th, 9th, 10th, and 11th essays; in fact, it forms a very considerable proportion of the whole volume. There can be no question of the importance of the matter. Its delicate nature has probably kept it in arrear of other subjects of medical science. Dr. Smyth expresses his surprise at the little that is worthy of notice upon it which is to be found in the writings of standard authors upon mental and other diseases.

Our limits do not allow us to follow our author either into this or the remaining subjects of his volume; but we beg to recommend it heartily to our readers, for the good taste and the good sense it displays.

MEDICAL GAZETTE.

Friday, July 19, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MESMERISM.

In a late number of our Parisian contemporary, the *Gazette des Hôpitaux*, amidst much that is extremely clever, as every thing is which flows from the pen of M. Raimond, we read these words:—

"It is long since we have heard any thing of magnetism. Can it be that all the high priests and priestesses of the worship are fallen into the magnetic sleep? With the exception of MM. Thilorier and Lafontaine, who have at length discovered the third imponderable fluid, so long and vainly sought after by others, and have proved its existence by making passes at the galvanometer, nothing new has reached me—nothing in regard to the Prudentias, the Virginias, the Colettas, and the rest of that elegant cohort of pretty little sleepers, which I so much love to look upon."

Seeing the magnetic tempest that rages around us in London at this time, we cannot but consider our Parisian friends lucky in their enjoyment of the calm. Far from hearing nothing of mesmerism in London, we seem to hear of nothing else; and what makes the interruption the less endurable now, is, that the business is altogether without its ordinary attractions. Neither have we the usual "*cohorte grecieuse et mignionne de charmantes dormeuses*," to which M. Raimond alludes, nor

even any individual member of the choir, neither Prudence, Virginia, nor Coletta — instead of "Mistress Anne Page," we have "a great lubberly boy!"

We think the fraternity of magnetizers seriously in error here; they ought not to have passed "the sex." We had large faith in magnetism before we heard of Alexis, in comparison with what we have in it now that we have information as to his powers: the ladies bore off the bell all to nothing; they were as ductile clay in the potter's hand; the male lump of matter is at best but a kind of bird-lime—soft enough, indeed, but it sticks to the fingers, and there is no fashioning it, or keeping it in decent shape. But for the propping up of the priestesses of the faith, as M. Raimond calls them, Alexis would sink together like a mere jelly: the women are his great friends; and whilst they save him from the importunities of those of his own sex who would question him somewhat strictly, and who insist on looking after his manœuvres rather closely, they are eager to help him in his guesses. "There is an *a* in the word?" says the youth. The unsympathising male sex, who perceive that if Alexis could read with his stomach, as he pretends that he can, he would require to ask no questions, are all brutally silent; they will not say whether there is an *a* in the word or not; but the tender heart of a female friend cannot resist the insinuating query, and it confesses that there *is* an *a* in the word. "And an *i*?" continues the gentleman. *Conticuere omnes*—all are silent; but by and by it is wrung from another sympathising she soul that there is an *i* in it; and then, having immediately before been asked to read the word "Rouen," which he could not do, the prophet is delivered, and with the final throe gives utterance to the word "Paris," that word having an *a* and an *i* in it.—And this satisfies the believers in magnetism, and somnambulism, and second-sight! If it does, they may be assured that it also satisfies the scoffers at their system.

For our own part, and quite seriously, we had been very much at a loss what to think of some of the phenomena of mesmerism up to this time. We saw the matter up to a certain point as fairly within our province of naturalist. When by certain manipulations we saw the external senses of a delicate woman whelmed in forgetfulness, the phenomenon met us as curious, and worthy of consideration, as all that pertains to natural phenomena is; but when we found a system of divination and of prophecy connected with the peculiar state which we were inclined to regard as having been actually induced, we began to be suspicious in regard to the primary phenomenon itself; for we felt quite sure that the disciples of Mesmer had now got beyond nature, and that, save on the wings of faith, we could not follow them.

The somnolence that is the effect of sustained attention to a trivial or monotonous topic we admit:—let any man lay himself down, who has not taken two cups of strong tea or coffee, and fix his eye on some point in the tester of his bed, or concentrate his attention on the cone of breath that issues at each expiration from his mouth, and in five minutes he will be asleep. Formerly the mesmeric state was only to be induced by passes; then it could be brought on by the fixed gaze of another; now it can be secured by the party fixing his own gaze upon some point above or below the plane of easy vision. Any thing like a peculiar influence—a magnetic fluid—transmitted from one human being to another, is therefore given up; the mesmeric state is induced without the passes, and without the gaze, of any

mesmerist. This being so, what becomes of the maintained necessity of one who would ask a question of the party mesmerized being first put in relation with the mesmerizer?—But we feel that we cannot properly pursue this subject farther here.

There are two orders of spirits in the world, one naturally inclined, another naturally indisposed, to mysticism and to belief; and we see that the general intellect is altogether independent of the mental constitution in this respect. Sir Matthew Hale believed in witchcraft, and Samuel Johnson believed in ghosts. The world has always held some kind of superstition or mysticism in respect. Judicial astrology served it for ages; mesmerism is in the ascendant at present. Judicial astrology has gone out of fashion; mesmerism has usurped its place; firmly believed in by one party of very respectable, very intelligent men, it is utterly scouted by another party of equally respectable, equally intelligent persons. These two parties should agree to differ on the subject of mesmerism. The believers ought to cease seeking to make proselytes among the incredulous; the unbelievers ought to give over endeavouring to shake the faith of the credulous.

In fact, the *ultimate phenomena* of mesmerism, if we may be allowed the expression in reference to clairvoyance or second-sight, are plainly beyond the domain of physiology: they are not functional manifestations of any organic part. Alexis, if he be anything more than a very ordinary mortal, must be a diviner, a prophet; and this, in fact, is what is claimed for him by his friends. As naturalists we stand upon such simple axioms as these: there is no effect without a cause; there is no function without an instrument; there is no organ that is not necessary to its office, &c. The first postulate of mesmerism is that we give up these axioms; that we admit effects without causes, functions without instruments, instruments as needless to their special offices, &c. This we cannot do. Were we fitted by our mental constitution to entertain the mysterious system of mesmerism, we should accept Alexis as a prophet, and of course view him with the same reverence as the ancients did their sybils and pythonesses, their interpreters of futurity. There is one great difficulty that meets us at the outset, however, and prevents us doing anything of the kind; it is this: that since Christianity was given to man for his guidance, the oracles have been dumb.

We conclude by quoting a few lines from the heathen poet Horace, as embracing a truth which we merely suggest to our friends the mesmerists, without wishing, by any means, to urge it over zealously upon them:

> Prudens futuri temporis exitum
> Calliginosâ nocte premit Deus;
> Ridetque si mortalis ultra
> Fas trepidat—

And by referring our readers to a communication which they will find in another part of this day's Gazette, for some particular information upon young Alexis's powers of divination and second sight.

CLINICAL PRIZE REPORTS.

By H. Fearnside, M.B.

University College Hospital, 1843.

[Continued from page 480.]

Causes.—The only circumstances which can be referred to as likely to have produced the disease, are, the greater amount of exertion which she had been obliged to make for some time preceding its development,—an inadequate supply of blood, and some degree of mental disquietude, occasioned by the circumstances of her family. This is so far in accordance with the generally received opinion, which ascribes considerable influence to depressing passions, or corroding cares, as the causes of this malady.

Again, the cessation of various processes going on in the healthy œconomy, during the whole, or the greater part of life, has been noticed as apparently an occasional cause of this disease. In the present instance, the menses had only ceased about four months previous to her admission into the hospital, and it was within this period that the most important symptoms had manifested themselves.

Prognosis.—Admitting the disease to be cancer of the stomach, the only question to be entertained related to the probable duration of the complaint, or the length of time which the patient might survive, and this, her extreme feebleness and emaciation pointed out, could not be protracted.

Little need be said respecting the treatment of what was too plainly an incurable disease: the combination of hydrocyanic acid and tincture of sesquichloride of iron, had the effect of removing the vomiting, and so conduced much to the patient's comfort. In spite of the means employed, she gradually sunk, and death took place from asthenia.

The appearances presented in the lungs on the post-mortem examination of the body were interesting: it was found that the physical signs observed during life had been produced by the presence in the apices of the lungs, of tuberculous matter, more or less advanced in a process of cure. On the left side, the tuberculous matter had been arrested in its progress, before the production of cavities, and converted into a chalky, plastery matter. The right lung appeared to exhibit the changes which tubercle sometimes undergoes when it has proceeded to a greater extent before a reparative process is set up: about an inch from the apex there was a cavity, lined by a membrane, and containing some putty-like matter: it is probable that the cavity had shrunk to some extent, and had then become filled by the remaining tubercular matter undergoing the cretaceous transformation. A similar case is described by Professor Rokitansky, and is by him classed as the third method in which tubercle may become quiescent. It may not be uninteresting again to remark the entire absence of any general symptoms referrible to the lungs: there was no cough or dyspnœa, and no evidence of her having at any time been subject to cough.

The heart was found much atrophied, as is commonly the case in cancer, and the lining membrane of the aorta was raised by an opaque, and in some parts osseous deposit, beneath it, as is so commonly seen in those whose systems have begun to suffer from the weight of years, or the wear and tear of life.

The stomach was found much enlarged, having given rise to the peculiar prominence of the abdomen observed during life. The condition of the os uteri was analogous to that pointed out by Dr. Montgomery as indicative of the incipient stage of carcinoma of that part.

[In the foregoing remarks, as well as in the comments upon the cases which may be published hereafter, the writer has availed himself of the clinical observations and lectures of the respective physicians under whom the cases occurred].

CASE II.—*Erythema papulatum, attended with considerable pyrexia; succeeded by jaundice; subacute inflammation of the gastro-duodenal mucous membrane; congestion of the liver; incipient phthisis; the hepatic affection relieved by mercury, purgatives, and alkalis.*

C. W., æt. 21, admitted into University College Hospital under Dr. Williams, May 11th, 1843. He is of dark complexion, moderately robust conformation, and ordinary stature; he spent the early part of his life in Kent, but for the last six years he has resided in London; he has always had a sufficiency of wholesome food, and has been in the habit of taking a moderate quantity of fermented and occasionally some spirituous liquor. His parents are dead; his father dying of dropsy, his mother of fever; neither were particularly subject to any disease, so far as he is aware; his brothers and sisters are healthy. His occupation is that of a book-binder; his work is laborious, and he is often employed from 6 A.M., to 9 or 10 P.M.; the room in which he follows his employment is hot, and he is particularly exposed to heat from his undertaking the gilding department, and working over a gas stove; he consequently wears but light clothing, and frequently goes into the open air without putting on any extra garment; hence he often suffers from coughs and colds, and has occasionally expectorated a little blood. He rarely or never takes any out-door exercise during the week; upon the whole, however, his general health has been tolerably good, and he has not lately suffered from any severe attack: when about five years old he had an inflammation of the lungs, and when about ten, he had scarlet fever; since which time he does not recollect being laid up for more than a day or two at once, and from the effects of cold.

On last Sunday fortnight (April 23d), he spent part of the day at Hampstead, and having overheated himself considerably by walking and running about, he then took off his hat, and sat down upon the Heath to rest himself. On returning home he felt exceedingly cold, and shivered much, and after getting into bed he became very hot, especially about the extremities, and perspired

freely. During the following day he was languid, thirsty, and without appetite; at night his attention was directed to his feet, from the presence of a tingling sensation on them, and on examination he found them swollen, and covered with red pimples, which were distinctly elevated, so that the skin felt rough. On the following day the eruption extended in patches as far as the knees; the febrile symptoms continued, and in the evening he became so unwell that he was obliged to desist from his employment, which he has not since resumed; he did not, however, seek medical advice until two days afterwards, when he applied as an out-patient at University College Hospital. He was then found to be suffering from erythema papulatum; and a mixture of colchicum wine, and liquor potassæ, was prescribed for him; his legs were bandaged, and rest enjoined. The medicine occasioned considerable sickness: he began to suffer from severe pains in the limbs, and the eruption extended to the face and arms, and gradually covered the whole of the latter; after the lapse of two or three days, his bowels became relaxed, and the febrile symptoms subsiding, the disulphate of quinine was substituted for the medicine before mentioned. About this time he observed that his motions were very light coloured, and his urine of a very deep hue, like "saffron water." Not deriving much benefit from the quinine, it was discontinued, and the colchicum again prescribed on May 4th. Early on the following day the tunica albuginea of the eyes was seen to be of a yellow colour; in the after-part of the day he had rigors, followed by heat of skin, and in the evening the whole surface of the body had assumed a yellow colour. He did not suffer at that time from any pain in the right shoulder, or pain or tenderness of the right hypochondriac or epigastric regions, nor itching of the skin. On the succeeding day the hue of the skin had become deeper; some purgative medicine was given him; and on May 9th, a pill, containing calomel and the extract of colchicum, was directed to be taken three times a day. He has suffered considerably from nausea and sickness, tinnitus aurium, severe throbbing headache, and inability to sleep; he has had frequent shivering, especially in the after part of the day, succeeded by increased heat of the surface, and thirst; the eruption has been fading for some days past.

State upon admission. — The surface is warm; conjunctivæ, and skin generally, are yellow, but not deeply so; the centre of each cheek is marked by a dusky spotted redness; on the inner part of both forearms and arms there are a number of small papulæ of a yellowish brown colour, which is not much altered by pressure; on the dorsa of the feet there are the remains of some papulæ, most distinctly seen on the left foot, on the back of which there is also a patch of erythematous redness, which extends upon the great toe; he has no pain in the limbs, but complains of being weak and lunguid; he is somewhat emaciated, but thinks that he had been losing flesh for some time before the present attack. He has no pain about the head, or giddiness; his countenance is rather heavy; he sleeps indifferently, and dreams much. He has no pain about the chest, and but little cough; his respirations are sixteen per minute.

Physical signs.—In respiration, the right side of the chest appears to move less than the left one, and vocal fremitus is more distinct under the right than under the left clavicle. On percussion, the upper part of the right side, anteriorly, is less resonant than the corresponding part of the left side; and the same difference is perceptible between the right and left supra-spinous fossæ. The expiratory murmur in respiration is more audible under the outer end of the right clavicle than under the same part of the left one, and it has a rather bronchial character. There is also increased vocal resonance, both under the right clavicle and over the right supra-spinous fossa, and the heart's sounds are heard under the right clavicle. Inferiorly and anteriorly there is considerable dulness on percussion below the fifth rib on the right side, and the respiratory murmur is feeble in the same situation. Posteriorly, the inferior half of the right side of the chest is dull on percussion, and the same part on the left side appears to be less resonant than natural; vocal fremitus is much more distinct upon the lower part of the right than of the left side, and the expiratory sound in respiration is distinctly audible in the former situation.

The pulse is 80, moderately full, and compressible; the heart's sound and impulse natural; the lips are dry and parched; the sides and tip of the tongue are red and smooth, with some of the papillæ considerably enlarged; the centre of the tongue is covered with a thin pale fur; he is very thirsty; has no appetite; experiences a constant sensation of nausea, and has vomited three or four times during the day; his bowels are rather relaxed; his motions light coloured and watery; there is considerable tenderness on pressure upon the epigastric region, especially towards its right side, and upon the right hypochondriac region, and he has occasionally rather severe pain in these situations; the liver does not extend beyond a finger's breadth below the margin of the ribs; the urine is high coloured, strongly acid, turbid from a deposition of the lithates, sp. gr. 1024; it is changed to a deep olive-green colour on the addition of nitric acid.

Treatment.—A combination of calomel, blue-pill, and extract of hemlock, was directed to be taken twice daily, and a senna draught in the morning; and the patient was placed upon low diet.

In the course of two days there was distinct evidence of the influence of mercury upon the system, the patient's gums being turgid and painful, and having a number of white films upon them. He did not suffer from any pain in the epigastric and right hypochondriac regions, except when pressure was made upon those parts; the skin was less yellow, and the eruption had completely disappeared. The pills were discontinued, and an alkaline medicine, containing Tartrate of Soda and Nitrate of Potash, prescribed. On May 17th, the discoloration of the skin was still further reduced, and the urine was found to be free from bile; the tongue was still smooth and red, but the vomiting had ceased, and the alvine evacuations had assumed more of their natural appearance. On May 19th there was but little pain on pressure over the upper part of the abdomen; and the enlargement of the liver, as indicated by the dulness on percussion over the postero-inferior part of the right side of the chest, was less obvious; he had no thirst, and his appetite was becoming good. A tonic medicine, containing Calumba and diluted nitric acid, was substituted for the saline previously given, and an aperient (Ext. of Colocynth), was directed to be taken every night. Under this treatment he rapidly improved, and was discharged cured on May 27th.

Remarks.—Jaundice, for such was the affection under which this patient was suffering, is considered rather as a symptom than as a specific disease. Its essential element is the presence of bilious matter in the circulating fluid, and its deposition in the textures: this may occur in connection with a variety of causes and conditions of the system: it may result from mechanical impediments to the free passage of the bile into the intestines, such as tumors, a distended colon, or an enlarged gland pressing on the ducts; or the presence of gall-stones, or inspissated mucus within them; or from inflammation of their lining membrane: the same condition may be produced by inflammatory or congestive affections of the liver or alimentary canal, or by causes acting on the nervous system, mechanical, mental, or moral. In the present case there was no reason for suspecting the existence of gall-stones or tumors; the age of the patient, the gradual manner in which the attack supervened, its being unaccompanied by any severe, and especially paroxysmal, pain in the right hypochondriac region, were adverse to such a view; as also was the observation of Dr. Bright, that in such cases the colour of the skin is of a very vivid hue, and acquired more or less suddenly. Again, the rigors, and other febrile symptoms preceding the attack, might have led to the supposition that an inflammatory affection of the liver had given rise to the jaundice, but on the patient's admission into the hospital there was no evidence of the existence of anything more than congestion of that organ. On the other hand, the symptoms were those of subacute inflammation of the upper part of the alimentary canal—viz. obstinate vomiting, everything but the mildest and lightest nutriment being rejected by the stomach; considerable thirst; a tongue with smooth red margins; pain and tenderness on pressure over the epigastric and right hypochondriac regions.

The congestion of the liver was pointed out by its rising higher than usual into the vault of the diaphragm, as indicated by the increased dulness on percussion over the lower, and especially posterior, part of the right side of the chest: it is possible that this may have been a sequel of the duodenal affection, and have concurred with it in giving rise to the jaundice; or it may have been a primary affection resulting from the exposure to cold.

The influence of inflammatory affections of the intestinal canal in giving rise to jaundice has been especially dwelt upon by Dr. Marsh; and a turgid and inflamed condition of the duodenal mucous membrane would appear to be a not uncommon cause of jaundice. The precise nature of the connection between this pathological state and the obstruction to the passage of the bile, has not, so far as the writer is aware, ever been demonstrated. A suggestion thrown out by Dr. John Hunter in his "Treatise on Army Diseases," is quoted by Dr. Marsh (Dublin Hospital Reports). He iuqnires, "Did the inflammation in the neighbourhood of the ducts, and perhaps extending to them, excite such contractions in them as obstructed the bile in the same way that suppression of urine is sometimes a consequence of inflammation of the urinary passages?" The muscularity of the ductus choledochus would seem to be proved as well by a consideration of its mode of origin, as a diverticulum from the intestine, as by actual experiment upon the lower animals; Müller having observed distinctly periodic contractions of the duct in a recently killed bird. Granting the applicability of these observations to the human subject, contraction of the ducts, or spasm of them, as it is usually termed, would cease to be a mere hypothesis. But, whether the proximity of an inflamed membrane, or the actual existence of inflammation in the duct, would give rise to such tonic and permanent contractions as must

be supposed to exist in these cases, is a question by no means settled.

The occurrence of the erythematous affection of the skin might be regarded either as owing to the close sympathy subsisting between the gastro-intestinal mucous membrane and the cutaneous structure, or as connected with imperfect action of the secreting organs in general, and liver in particular, and the consequent retention of excrementitious matter in the circulating fluid; the skin, in this case bring peculiarly liable to be affected, from the previous state of high excitement in which its functions had been, succeeded by a state of collapse still further increased by exposure to cold.

On referring to the history of the case, we find that at the time at which the attack of jaundice came on, the patient was taking colchicum, and it becomes a question whether this might not have some share in the development of this additional symptom, as it has been frequently observed, that, under some circumstances, medicines, which in a normal state of the habit increase the flow of bile, bring on jaundice.

With reference to the *causes* of this attack: the patient was predisposed to hepatic disease from his being habitually in a high temperature, working in a close and hot room; again, his rash exposure of himself to a cool air when overheated by running, was a proceeding well calculated to give rise to internal congestion—probably the first link in the chain of morbid processes.

The *prognosis* in this case was favourable, from the youth of the patient, his previous tolerably good state of health, and from the view taken of the pathological nature of the affection.

The *treatment* consisted in the administration of small doses of mercury and extract of hemlock; a combination which appears to be peculiarly beneficial in many cases of defective action of the liver—with or without an inflammatory state of the gastro-duodenal mucous membrane; purgatives were also given, and after a few days an alkaline medicine was prescribed; alkalies being useful apparently, both by their chemical action upon the bile, and by increasing the renal secretion, for when one excreting organ fails in its action others generally suffer also, and the connection between none appears more intimate than that between the liver and kidneys: a mild bitter was subsequently prescribed, and under this treatment he rapidly improved, and in the course of sixteen days was sufficiently well to leave the hospital.

The *diagnosis* of cases of incipient phthisis is a matter of some difficulty, but the combination of general symptoms and physical signs present in this case, renders it highly probable that there existed some tubercular deposition in the summit of the right lung. We find that he was very subject to coughs and colds, from the alternations of temperature to which his employment subjected him; he had been getting thinner for some time before his admission into the hospital; on two occasions he had expectorated a little blood, and he had suffered from slight cough for a considerable time. The character of the physical signs strengthened the suspicion which the existence of these symptoms necessarily gave rise to; the motion of the right side of the chest was somewhat less free than that of the opposite side, there was an increase of the vocal fremitus, dulness on percussion, and bronchial respiration under the right clavicle and over the right supra-spinous fossa: the resonance of the voice was also distinctly increased over the same situations.

ARMY SURGEONS.—HEALTH INSPECTIONS.

To the Editor of the Medical Gazette.

Sir,

In your number dated 21st of June, there are some observations by Dr. Hull, of Norwich, with respect to army surgeons, the concluding passages of which refer with honest indignation to that most disgusting and degrading business enjoined amongst the duties of army medical officers—the *health inspections*. Upon this subject I propose to offer a few additional remarks, trusting that you will not deem them unworthy of insertion in your valuable journal.

Your correspondent in a kind and sympathizing spirit observes, that "a civilian may fearlessly denounce what a soldier must not, through a sense of discipline, deprecate," and this it is which has hitherto prevented all remonstrance on the part of army medical officers against so odious and useless a practice, notwithstanding the universal recognition amongst us of the efforts which have been so successfully made by our present enlightened and benevolent Director General, to increase the comfort, uphold the respectability, and advance the efficiency of the department. But this is a grievance to which probably his attention has never been directed, for the reason above stated, and as I cannot believe that he would continue to enforce a duty so utterly repugnant to the feelings of every gentleman, were he reminded of its humiliating effects, I hope I may succeed in thus attracting his notice, as it is evident from the late contributions he has forwarded to your journal that he is numbered among your readers.

The "*Health* Inspections," as they are so misnamed, could scarcely be palliated

were they even productive of the utility to the service which their appellation would infer. But so odious and degrading are they considered throughout the army, that the detective measures which they are intended to enforce are utterly negatived by the abhorrence and aversion of all parties engaged in them, from the medical officers down to the youngest drum boy. In many regiments the practice is a mere form hurriedly gone through, in which no attempt is made to effect one single object of the purpose intended; in others, where the discipline and supervision of the commanding officer may be more stringent, the disgusting duty is carried through, more in compliance with the standing orders, than with any attention to that minute scrutiny which could alone prove effective; but throughout the service, however zealous and indefatigable in all other respects the medical officers may be, this duty is performed with a degree of negligence and sullen reluctance which its sense of degradation must naturally produce. The soldiers are equally averse to so humbling an exercise of authority, and invariably attempt to evince their indignation and abhorrence by ill-concealed ribaldry and suppressed jokes, which may at least throw contempt on the revolting ceremony. In furtherance of this object, every trick and artifice which can be devised on their part to evade the detection of disease, are not only considered justifiable, but highly ingenious; and all those who can, by any scheme, absent themselves from the disgusting exhibition, invariably do so. Thus, from the universal abhorrence of these inspections, the whole proceeding is rendered a mere farce; and I may safely assert that a far greater number of syphilitics escape detection than are ever ordered to hospital, even when the medical officers scrupulously endeavour to discover them; and this, indeed, is a very rare case.

In short, no one who is acquainted with the *working* of this supposed precautionary measure can attempt to deny the utter inefficiency of it in practice; whereas, if no such odious injunction existed, a far more efficient system would soon be organized by the medical officers themselves, which, whilst it lightened the sick-list and their own labours, would entail severe punishment on those who, by concealing disease, should render its treatment more difficult and protracted. Under the present system, such delinquents, if they can succeed in proving their attendance at the weekly health inspections, escape all punishment, as the "Doctor" is of course expected to possess the eyes of Argus, and any oversights can only be attributed to his blindness or negligence; neither of which imputations he would of course willingly incur; therefore he is usually silent about men coming to hospital when they are no longer able to remain out of it.

In conclusion, it is needless to observe what an admirable subject for sneering and sarcasm such a theme must always present to the malicious jocosity of young ensigns at a mess-table, nor does it appear possible that any plan could have been devised which would more thoroughly inspire contempt for the position of army medical officers when such is the humbling nature of his duties, whilst it is equally certain that nothing could so effectually and so constantly wound the feelings of the degraded

ARMY SURGEON.

July 10, 1844.

ON THE

AMOUNT OF PERSPIRATION FROM THE HUMAN BODY.

BY PROFESSOR VALENTIN.

THE distinguished physiologist of Bern has given an account of some statical experiments which he made upon himself, apparently with much care, in the last number of his Repertorium, which has just reached us, and which contains, we may add, the conclusion of an extended and valuable Report on the Progress of Physiology during the year 1842. The experiments on perspiration are not only curious in themselves, but they are interesting as introducing us in some sort to the privacy and particular acquaintance of a man whom all who have lately followed the development of medical science in its foundations have for so many years held constantly in their eye.

The balance employed was a very delicate one, which loaded with from 108 to 110 kilogrammes, or about a cwt. in either scale, still turned upon the addition of half a grain.

The weight of the professor, completely naked, was taken repeatedly,—as often as fifteen times in the course of twenty-four hours; the temperature of the room did not vary more than a degree and a half Cent. at different times; it was at from 20° to 21°,5 of this scale. Every thing taken into the body, as well as every thing given out from it, was of course weighed either directly or indirectly. The weather during the first day's experiment was misty; during the other days it was fine.

First experiment, September 4th, 1843.—Weighed fasting at 6h. 44m., and again, having taken two cups of coffee, at 7; again at 8h. 22m. having been engaged in writing, and having smoked a pipe—the professor smokes!—and again at 8h. 40m. having meantime shaved, made water, and gone to stool; again at 10h. 34m. having been walking in the hot sun and perspiring, and feeling very hungry—it is pleasant to hear a

man of science say he is hungry! much enjoyment at thy approaching meal Herr Professor! Again at 11h. 55m. after having breakfasted quietly, written, and smoked another pipe—does the professor approve of smoking regularly after meals? again at 12h. 55m. immediately after dinner, which consisted of soup, sausage, veal, salad, potato with butter, and a very little drop of wine—like all philosophers we see the professor is a temperate man! Let us see whether or not he made a good dinner; immediately before his meal he weighed 52,687 grammes; immediately after it, 53,467 grammes; difference 811 grammes, which is as nearly as possible 25 ounces — yes, the professor dined well—"may good digestion wait on appetite!" say we.

Afternoon.—Weighed at 1h. 40m. having walked a little, but for the greater part of the time having lain upon the sofa smoking a cigar. Why this is quite luxurious! but though we have no such *otium* in this crowded metropolis ourselves, we are far from grudging the worthy professor his repose; doubtless the writing on which he had been engaged was part of the Report on the Progress of Physiology for the past year, that must evidently have been a tough piece of work. Urine was passed a second time of sp. gr. 1,0138; at 2½h. a draught of water was taken. Weighed again at 3h. 2m. having sat tranquilly engaged in writing—doubtless the "Report;" at 3½h. and at 4h. a second and a third draught of water. We fear the sausage must have been highly salted and spiced; the professor is evidently thirsty. Weighed again at 4h. 52m.; engaged as before, and having made water at 4½h. of sp. gr. 1,017.; weighed again at 5h. 57m. after walking for an hour in the sun, having perspired a little and become extremely hungry. Walking in Switzerland, we know by experience, does not take away the stomach; we wish fagging in London did not, but it does sadly. Weighing repeated at 6h. 38m. the appetite having been appeased with a supper of veal, bread and butter and cheese, and a glass of water. The evening meal weighed 525 grammes, or about 16¼ ounces. For between two and three hours the professor took active exercise, having clambered up and run down two very steep mountains, so that he perspired freely—until his shirt was soaked. At 9h. 23m. the weighing was repeated. Between nine and ten a draught of water was taken, and urine passed of sp. gr. 1,002; to complete the twenty-four hours the weighing was performed for the last time next morning at 6h. 38m. We see, therefore, that the professor goes early to bed and that he rises early, for he had been at work writing—the Report—half an hour before the morning's weighing.

We have as results of the whole, that the weight of the body varied at intervals in the day, between 52909 and 53759,5 grammes. The weight of the whole meat and drink consumed was 3199,1 grammes; the excretions were:—

Fæces	. . .	214,5 grammes
Urine	. . .	1041,8 ,,
Perspiration	. .	1630,8 ,,
		2887,1

312 grammes were therefore taken in more than were given out.

The quantity of food consumed for each hour was 133,3 grammes.

Of fæces passed	.	8,9 ,,
Of urine	. .	43,4 ,,
Of perspiration	.	67,1 ,,

If the *assumpta* be taken as unity then will the fæces be represented by 0,067

The urine	0,326
The perspiration	0,509
What has been retained	0,098

We shall not go over the second nor yet the third day's experiments, but add their general results in a tabular form of mean hourly quantities in grammes.

Day's food.	Fæces.	Urine.	Perspirat.
1 133,3	8,9	43,4	67,1
2 115,8	6,4	57,7	48,4
3 116,4	8,5	79,7	39,5
Mean 121,8	7,9	60,3	51,6

Professor Valentin also tried the loss by perspiration during the night. In 10 hours 18 minutes, between the 8th and 9th Sept., he lost 411,5 grammes in this way; or on an average 39,95 grammes: as nearly as possible f3x. per hour. On another occasion he lost on an average at the rate of 40,7 grammes per hour; on a third the loss was 34,8 grammes per hour; on a fourth, a fifth, and a sixth, 31,9,38,1 and 41,1 grammes per hour.

Very great differences in the quantity of perspiration thrown off are observable from hour to hour; rest and motion are the grand conditions that influence the quantity. The loss having been 90,5 grammes per hour by perspiration under the use of exercise in the sun, is reduced the following hour by rest, and occupation in writing, to 47,4 grammes per hour. During another hour spent in the same way, it is no more than 32,8 grammes; but by and by, under violent exercise, it rises to 132,7 grammes per hour.

No distinction, it is proper to observe, is made between the loss from the general surface of the body and from the lungs; the weights given appear to include both the pulmonary and cutaneous exhalations.

CASES OF OVARIAN DISEASE.

By Emery Bissell, M.D.

Dr. Bissell details the post-mortem appearances in three cases of ovarian disease that terminated fatally after the usual temporizing treatment by tapping had been gone on with for longer or shorter periods. In the first case the patient appears to have died of peritonitis, the consequence of the last tapping; so, probably, did the second. The cause of death in the third instance is not named, but it was probably exhaustion, as in the other cases, brought to a crisis by tapping. In none of the three cases was the body of the uterus diseased; and the attachment of the ovarian tumors was, in every instance, by a small pedicle, not more than an inch in diameter. In none of them were there any material adhesions to the adjacent tissues, certainly none to hinder a speedy and ready removal of the diseased masses. In case No. 1, the left ovary weighed 19 lbs., the right ovary 1 lb.; in case No. 2, the left ovary weighed 11 lbs., the right 8 ozs.; in case No. 3, the left ovary—its solid and membranous parts alone weighed 37 lbs.; the quantity of fluid discharged from it 35 lbs., not reckoning 10 lbs. which were estimated to have been lost on the table and floor: the whole weight, therefore, must have been about 82 lbs., to which may be added 11 lbs. of fluid drawn off by tapping the day before death, the whole of which could hardly have been reproduced. The right ovary weighed half a pound. [Dr. Bissell declares himself as decidedly favourable to the operation of ovariotomy. The uniformly fatal tendency of ovarian disease justifies, in his apprehension, the procedure, were the results even less favourable than they have been.]—*American Journal of Medical Sciences*, April 1844.

TREATMENT OF LEUCORRHŒA BY MEANS OF TINCTURE OF IODINE.

M. Van Steenkiste has made use of a dilute tincture of iodine with great success in cases of obstinate chronic leucorrhœa.

℞ Iodine, gram. iv.; Alcohol, gram. lx. solve; et Aquæ destill. grammes cxxv.; about 30 fluid grammes (or f3xv.) are to be thrown into the vagina as an injection, and repeated every day, or every other day, according to the excitement it occasions.—*Ann. d'Obstetrique, cited in Gaz. des Hôpit.* No.65.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

On the 30th inst., it is said that the Fellows of the Royal College of Surgeons of England are to meet for the purpose of electing three new Members of Council.

William B. Carpenter, M.D. F.R.S. was, on Monday last, elected Fullerian Professor of Physiology to the Royal Institution of Great Britain.

Died, at Carlisle, on the 9th inst., aged 34, William Elliot, M.D. To professional attainments of a high order he added unwearied zeal in the pursuit of science. He was an able, judicious, and humane practitioner. In all the relations of private life he was truly exemplary; and his early removal from a sphere of great honour and usefulness will be long and sincerely deplored.

"Medicus, Clifton."—The work referred to by Medicus will appear very shortly.

APOTHECARIES' HALL.

Gentlemen who have obtained Certificates, July 4.—H. J. Aldham, Witham, Essex.—W. M. Pulleyne, Norfolk. — G. M. C. Saunders, Honiton, Devon.—G. F. Wills, Crewkerne, Somerset.

July 11.—W. Davy, Barnstaple, Devon. C. Rogerson, Blackburn, Lancashire.—J. H. Wise, Banbury, Oxon.—S. S. Alford, Taunton, Somerset.—J. Stevens, Woolverton, Hants.—E. K. Parson.

MORTALITY OF THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, July 6.

Dropsy, Cancer, Diseases of Uncertain Seat	98
Diseases of the Brain, Nerves, and Senses	157
Diseases of Lungs and Organs of Respirattion	238
Diseases of the Heart and Blood-vessels	27
Diseases of Stomach, Organs of Digestion,&c.	78
Diseases of the Kidneys, &c.	2
Childbed	4
Paramenia	0
Ovarian Dropsy	0
Disease of Uterus, &c.	3
Arthritis	0
Rheumatism	1
Diseases of Joints, &c.	2
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.	2
Old Age or Natural Decay	46
Deaths by Violence, Privation, &c.	21
Small Pox	36
Measles	21
Scarlatina	58
Hooping Cough	17
Croup	4
Thrush	7
Diarrhœa	12
Dysentery	1
Cholera	0
Influenza	2
Ague	0
Remittent Fever	2
Typhus	24
Erysipelas	6
Syphilis	1
Hydrophobia	0
Causes not specified	1
Deaths from all Causes	871

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JULY 26, 1844.

REPORTS OF CASES TREATED IN UNIVERSITY COLLEGE HOSPITAL.

By H. Fearnside, M.B.

With Clinical Remarks by
Drs. Williams, Taylor, and Thomson.

Extensive anasarca, with albuminous impregnation of the urine; presence of urea in the blood; bronchitis; condensation of some parts of the tissue of the lungs; enlarged liver; treatment by local and general bleeding, hydragogue purgatives, and diaphoretics.

Thomas Crawley, æt. 32, admitted into University College Hospital, under Dr. Williams, June 20th, 1843. He is a stout, muscular man, rather below the middle stature; he is married; his occupation is that of a labourer in some livery-stables; he is employed principally in washing carriages, &c., and is consequently much exposed to cold and wet. He is in the habit of living freely, and has never suffered from privation; he frequently takes animal food twice a day, and is not particularly temperate in the use of intoxicating liquors, generally taking three or four pots of beer daily, and occasionally more, besides an allowance of spirits. His mother died of consumption; his father of some acute disease, brought on, he believes, by drinking; out of 14 or 15 brothers and sisters 3 only are living; the greater number having died in infancy and childhood.

His general health has been very good; he has no recollection of having had any serious illness, except when about 15 or 16 years of age; at this time he had inflammation of the brain, for which he was about two months in the Marylebone Infirmary.

His usual practice has been to take a "siesta" in the hay-loft for an hour or so in the afternoon. During the last, and the early part of the present month, he was much exposed to rain, &c., and he thinks it not unlikely that he may have lain down to sleep in his damp clothes, or upon damp straw; his health, however, does not appear to have been *sensibly* affected until about eight days ago, when upon awaking in the morning he found his face swollen, especially upon the left side, but not red or inflamed. On the same day his breathing became rather difficult, and he experienced a sense of weight and oppression about the chest; he began to cough and expectorate a thick yellow fluid; he also became hot, and thirsty; his urine was high coloured, but never contained any blood (so far as he is aware); he had no difficulty in voiding it, nor had he any pain about the loins. These symptoms were not sufficiently severe to prevent his attending to his employment, which he continued to follow during the week; but his cough became worse, and he suffered from headache, especially towards night. Two days ago, he "thought" that his legs were swollen; the symptoms before mentioned continued up to the time of his admission.

Present State.—The surface generally is cool and dry; the legs and thighs are tense, and very œdematous; the integuments of the abdomen and walls of the chest are also œdematous, but the arms are not affected. The face generally, and its left side in particular, are swollen and puffy, and the impression of the finger does not immediately disappear; but there is no distinct "pitting" upon pressure; the swollen parts are not in any degree painful. The ocular conjunctiva, especially that of the left eye, is considerably ecchymosed. The skin of the lower extremities is marked by a great number of discoloured spots from bruises, and there are also many small reddish pimples, some of which are covered with blackish scales, as if from a drop of concreted blood.

He complains of a sense of heaviness, and some pain about the head; he has a disposition to sleep more than usual; the countenance has a heavy expression.

His voice is rather hoarse; he coughs frequently, but has no pain about the chest; he complains, however, of a sense of fulness; he expectorates a considerable quantity of a thin brownish fluid, with portions of mucopurulent matter floating in it.

Physical Signs.—There is not much difference in the motions of the two sides of the chest, but the sound on percussion under the left clavicle is somewhat duller than that elicited under the right one; the respiratory murmur is rather feebler than natural under both clavicles, and that accompanying expiration is more audible than natural under the left one. The postero-inferior parts of both sides of the chest are not very resonant on percussion, and this applies more especially to the left side. Over the middle and lower parts of the right back a submucous rhonchus is heard; on the opposite side the respiratory murmur is in some parts rough, and in others a mucous rhonchus is heard; as also over both supra-spinous fossæ. Respirations 20 per minute; pulse 75, moderately full and firm; the sounds and impulse of the heart are natural. The tongue is covered with a thin, pale fur; he is rather thirsty; his appetite is tolerably good; the bowels open; the urine scanty, high-coloured (from the presence of hæmatosin), its reaction is acid; sp. gr. 1023, and it contains a considerable quantity of albumen; after being tested by means of heat and nitric acid the coagulum amounts to one-third of the volume of the fluid operated upon. The liver appears to be considerably enlarged, extending down into the abdomen, about three fingers' breadth, or rather more, below the margin of the ribs; there is also considerable dulness on percussion over the left hypochondriac region, as if from some enlargement of the spleen. He has no pain or tenderness about the loins.

Treatment.—Soon after his admission, a dose of calomel was given, and followed by a draught of infusion of senna; twelve ounces of blood were taken from the arm: the patient was directed to take an ounce of the bitartrate of potash every morning, and he was placed upon middle diet. On examination by Dr. Garrod, urea was found to be present in the blood—a quarter of a grain of the nitrate being contained in one ounce of serum: 1000 parts of urine were also found to contain 4·8 parts of albumen. For some time the cough continued to be the most troublesome symptom, but its violence and frequency were much reduced by the abstraction of 13 oz. of blood from the interscapular space by means of cupping. The urine remained scanty for some days, the quantity voided daily averaging, as nearly as could be ascertained, about thirty ounces; but after he had been five or six days in the hospital, it became more abundant, amounting to about three pints in the twenty-four hours; it lost its impregnation with the colouring matter of the blood; its specific gravity fell, ranging between 1014 and 1018, and the quantity of albumen present in it diminished to a greater extent than was accounted for by the increased quantity of fluid excreted. The bowels were freely acted upon by the bitartrate of potash, which at first only occasioned some slight sickness. The œdema gradually, but rather slowly, diminished; the countenance became less heavy and soporose, and the patient experienced less disposition to sleep than on his admission. On account of the dryness of the surface, ten grains of Pulv. Ipec. Co. was prescribed to be taken at bed-time, after the patient had been under treatment for about a week. But his sensations had improved so much by this time that he could not be persuaded that there was any necessity for a longer residence in the hospital, and he consequently left it, after having been an inmate of it about nine days.

Remarks.—The nature of the disease in this case was apparent from a very slight examination of the patient. The puffiness of the face, the extent of the œdema, the suddenness of its appearance, the fact that the face was the part which first began to swell, the habits of the patient, his habitual indulgence in very free potations of intoxicating liquors—all these positive circumstances being confirmed by the absence of any evidence of disease of the heart, gave a very high probability to the opinion that the dropsy depended upon disordered function of the kidneys, and the non-elimination of urea from the blood. This supposition was established by a chemical analysis of the blood and urine; the former was found to contain urea, and the latter albumen. The disease under which the patient was suffering was the *acute* form of albuminuria; the symptoms which ushered in the attack, the thirst, heat of skin, headache, &c., were such as announce the commencement of an acute disease. The character of the urine was another proof of the same fact; it was scanty, high coloured, from the presence of hæmatosin, of by no means low specific gravity, and largely impregnated with albumen. The swelling of the face, although more considerable, perhaps, than is generally seen in œdema of this part from albuminuria, was, no doubt, owing to the same cause as the œdema of other parts of the body; for there was an absence of any local disease to explain it; it was not attended with the usual signs of inflammation, and it had that peculiar *elastic* character, not distinctly pitting upon pressure, which has been noticed, and is adverted to by Dr. Christison, as connected with that pathological con-

dition of the kidneys of which the general œdema is a consequence. The heaviness of the countenance, and the great disposition to sleep manifested by the patient on his first entering the hospital, must be attributed to the same cause as the œdema, the circulation of urea in the blood being a slight degree of the same state which, in its more developed form, is seen as coma, or apoplexy.

The bronchitis from which the patient was suffering, if not dependent upon the vitiated character of the blood, was probably, at any rate, influenced and maintained by it. It appears rational to suppose that blood containing an excrementitious matter must more or less irritate, and otherwise modify, the functions of different parts, and thus render them more susceptible to impressions from external causes.

There was evidence (in the dulness on percussion, and altered character of the breath sound), of some condensation of the pulmonary tissue, especially upon the left side of the chest; the situation of that in the upper part of the lung might suggest its being due to the presence of tuberculous matter, and this is rendered more probable from the fact of the patient being hereditarily predisposed to phthisis, as well as from a consideration of his mode of life. The condensation of the lower parts of the lungs might be the result of inflammation, or effusion of serum into the pulmonary tissue: as the dulness on percussion was not very marked, and was unattended by any bronchial respiration, the latter is probably the correct explanation. Considerable enlargement of the liver existed in this case; it was unattended by any pain or tenderness, and was probably of some duration, and owing to the continued influence of intoxicating liquors.

The patient experienced little or no pain or tenderness about the swollen parts; it must be remarked, however, that he was a heavy, phlegmatic subject, constitutionally possessing but little nervous sensibility, and his whole mode of life and occupation would have anything but a tendency to develope the little he originally had; every part of his frame appeared to have the same unimpressible character; hence, probably, the absence of pain; hence also, the little constitutional suffering in this really so serious disease.

The *origin* of the disease in this case may fairly be attributed to the patient's habits and mode of life; his large consumption of fermented and spirituous liquors, and his almost constant exposure to cold and wet. From the operation of the former causes, the secreting powers of the kidneys are habitually taxed to get rid of the superfluous amount of fluid daily thrown into the circulating system; a fluid not consisting of simple water, but holding in solution or admixture various innutritious and noxious matters, which cannot fail to make some impression (no doubt, of an injurious character) on the secreting apparatus of the emunctory by which they are discharged; and which being repeated, must either directly lead to the production of disease, or produce a state highly favourable to its development, on the application of other exciting causes. Again, one of the most powerful and constant effects of cold is the production of internal congestion, and in this the kidneys share; their secreting power, however, has already been taxed to the utmost, — their vital properties more or less impaired, and they are ill adapted to bear the extra quantities of blood thrown upon them. Under these circumstances, it would appear that the most exposed and unprotected vessels, those of the corpora Malpighiana, sometimes give way, and allow blood to be discharged with the urine; or if this is not the case, the serum of the blood transudes, and mingles with the fluid. Moreover, the true secretory functions of the kidneys—those consisting in the production and bursting of the cells along the parietes of the ducts—are also interfered with; hence the amount of solid matter discharged by the urine is lessened, and even some of the excrementitious materials which exist ready formed in the blood are not eliminated; and hence various injurious results ensue, some of which have been already enumerated as occurring in the present instance. The state of the kidneys, therefore, in the early stage of this disease, appears to be simply one of congestion in at any rate the majority of cases; theoretical reasoning would lead to this conclusion, and morbid anatomy confirms it. Many of the symptoms present in the progress of the case would not be easily accounted for on the supposition that the essential part of the disease is an inflammation of one or both kidneys; the cool skin, slow pulse, and absence of any pain or tenderness about the loins, are symptoms which we should not expect in inflammation of so important an organ.

The *prognosis* in this case cannot be considered favourable. Had the patient been tractable, and remained a sufficient length of time under treatment, there is every possibility that he would have been cured, supposing the disease not to have advanced beyond its first stage; but returning to his employment and old habits before the functions of the kidneys have been fairly reestablished, exposed to the same influences which caused the first appearance of the disease, we may anticipate its continuance and increase, and that it will either recur in a more intense form, or, gradually progressing, that it will, if more slowly, yet not the less surely, undermine

the constitution by more and more impairing the quality of the circulating fluid, causing the development of disease in other organs; or, if life be not terminated in this gradual manner, the patient may be rapidly carried off by the supervention of some acute disease, which, though it might be of comparatively little danger to a healthy subject, yet becomes fatal in the extreme to those whose excreting organs are thus disabled; for as the kidneys are the emunctories by which various noxious matters are eliminated from the system, (apparently) critical evacuations take place in acute maladies; when thus affected, they are unable to take on this increased action.—(Dr. Williams).

The *treatment* in this case consisted in bleeding, to diminish the morbid mass of blood, and also to reduce any tendency to secondary inflammations; hydragogue purgatives were then administered, which are useful by lessening the quantity of the circulating fluid, deriving to the intestines, lessening renal congestion, and thus enabling the kidneys to return to their healthy action. On June 24th the patient was cupped between the shoulders to relieve the bronchitic symptoms, and a few days afterwards Dover's powder was prescribed, so as to determine freely to the surface. Had the patient remained under treatment longer, a diuretic would probably have been of use; for although remedies of this class are condemned by some physicians, on the ground that they add to the irritation in the kidneys, the restriction cannot be held binding except during the presence of acute symptoms, or while the disease is in an early stage. In therapeutics it is frequently observed that a stimulant is one of the best applications to congested parts; illustrations of this in the treatment of the diseases of the external parts of the body are numerous, and the analogy may fairly be extended to internal organs.

Acute articular rheumatism—No affection of the heart—Rapid and successful treatment by bleeding, calomel and opium, colchicum, and purgatives.

Elizabeth Connor, æt. 35, admitted into University College Hospital, under Dr. Williams, May 10th, 1843. She is a woman of rather slight conformation, pallid complexion, and melancholic temperament. She is a native of the county of Cork, in Ireland, but has resided in London for the last sixteen years; she has always had a sufficiency of food, and has occasionally, but not habitually, taken some fermented or spirituous liquors. She is married, and has had seven children, two only of whom are living. The catamenia did not appear until the age of 22 (two years after her marriage), but her general health did not suffer in consequence. She resides in a damp house, and in a close and confined street in St. Giles's. For the last few months she has been much exposed to the weather, having kept an open shop for the sale of coals, &c. Her father died of fever; her mother is still living, at a very advanced age, and in the enjoyment of good health. She has eight brothers and sisters, who are all healthy; and neither they nor her parents, so far as she is aware, have ever suffered from rheumatism.

The patient suffered from three attacks of fever before she left Ireland; but with these exceptions her health has always been good.

The *present attack* commenced four days ago, and without any particular previous exposure to cold or damp. At the time mentioned she began to suffer from pain in the knees, at first transient, but soon returning with increased violence, and attended with heat of skin, thirst, and other febrile symptoms. On the following morning (three days ago) the knees were still more painful, and the skin was red in spots, as was also that over the fronts of the thighs and legs. The knuckles of the left hand were swollen and painful, but not red; and she had severe pain in the back of the neck. These symptoms continued throughout the day, and greatly impeded, but did not entirely prevent motion. On the ensuing day, however, she became completely unable to move; the knees were at this time swollen, and she had excruciating pain in them; also in the right hip, and in the small joints, and back of the left hand. Her friends thinking that she would be relieved if she could perspire freely, gave her hot gruel and rum, and covered her with clothes for an extent which seriously interfered with easy respiration. In pursuance of the same system she was yesterday immersed in hot salt and water for some time, and hot fomentations were applied to the painful joints. But although she perspired profusely, none of these measures afforded any relief.

Present symptoms.—The surface is warm and moist; a strong sour odour is exhaled from the patient, and the perspiration is distinctly acid to test-paper. She complains of exceedingly severe pain in the right hip-joint, and in both knees, which are much swollen, the effusion appearing to be seated as well in the bursæ around the joint, as in the capsules; the integuments in these situations are slightly reddened; she has no pain about the ankles, or large joints of the upper limbs, but the articulations of the fingers of the left hand are somewhat enlarged and painful.

The countenance is expressive of much anxiety, and the face is pale. She has no headache or giddiness, but complains of inability to sleep. She has no pain about the chest; no cough or dyspnœa; respirations 20 per minute; pulse 104, and rather sharp;

the sounds on percussion and auscultation, both over the lungs and heart, are healthy. The tongue is covered with a thin fur, through which enlarged papillæ are to be seen near its tip and margins. There is much nausea and disposition to sickness, but no actual vomiting; no thirst or appetite. The liver does not extend more than an inch below the margin of the ribs, nor does it rise higher into the thorax than natural. The bowels are moderately open; the urine scanty, high coloured, strongly acid, sp. gr. 1029, turbid from a deposition of the lithates, and it contains an excess of lithic acid. The catamenia have not been present for some months (since her last confinement); the mammæ are large, and contain a number of small, indurated, and very painful tumors.

Treatment.—Twelve ounces of blood were taken from the arm; a pill containing five grains of calomel, and half a grain of opium, was directed to be given immediately, and repeated at bed-time. A purgative of sulphate of magnesia and infusion of senna was prescribed for the following morning, and a draught containing colchicum wine and tartrate of soda to be taken three times daily. The patient was also placed upon low diet.

12th.—The pain and swelling have almost disappeared from the left knee, but she thinks that the pain is rather increased in the opposite one, and also in the right hip-joint. She perspires much, has some headache, and sleeps but little. She complains of a feeling of oppression about the chest, prompting her to sigh frequently, but both the breath and heart-sounds remain healthy. The bowels are rather confined; the urine has the same characters as on her admission; the blood abstracted two days ago is highly buffed and cupped, and the coagulum is small and firm.

13th.—The rheumatic symptoms are much less severe; the swelling and pain of the joints have subsided in a great degree, so that the patient has been able to walk about the ward. She complains of pain about the lower part of the sternum, but there is no tenderness on pressure in this situation; there is nothing abnormal in the sounds or impulse of the heart; pulse 96, soft, and rather small; respirations 28 per minute. She has a good deal of headache and heaviness about the eyes. The tongue is covered with a thick yellow fur, and she has a constant disposition to vomit; the bowels have been confined for two days; the urine is clear, high coloured, acid, sp. gr. 1032; and it contains a large excess of urea and also of lithic acid. (The purgative to be repeated.)

15th.—There is no swelling of the joints, but she has some pain in the right popliteal space and over the trochanter major; she perspires less; pulse 88, soft and small; no oppression about the chest; the tongue cleaner; the bowels open; the urine less high-coloured, and no longer contains an excess of urea. (Three grains of iodide of potassium to be added to the draught.)

17th.—She complains loudly of weakness and giddiness, has occasional tinnitus aurium, and the sensation of scintillations before the eyes; she has also considerable headache. No return of the rheumatic symptoms; the tongue is rather furred, and she occasionally suffers from sickness. Bowels open, and the urine natural; pulse 84, soft, and rather weak.

She appeared uneasy and dissatisfied, and left the hospital in the afterpart of the day.

Remarks.—The peculiar characters which different diseases stamp upon the countenance, are nowhere better illustrated than in an attack of acute rheumatism; in fact, the countenance, posture, and general aspect of a patient labouring under this disease, are often alone sufficient to characterise it. The strong acid odour exhaled from the person of a rheumatic patient, is a sign which, in many instances, appeals powerfully to another sense. The truth of these observations was strikingly exemplified in the present case. The impression which a first view of the patient was calculated to give, was confirmed by a consideration of her age, the sphere of life in which she had moved, the nature of what appeared to have been the exciting causes of the disease, the situation of the joints affected, and the character of the accompanying fever.

With reference to the variety of rheumatism which existed in this case, the disease assumed chiefly the form of the diffused "articular,"—the synovial membranes, and the bursæ around the joints, being principally affected; and soon after the patient's admission, the principal part of the inflammation appeared to be in the latter structures. But, from the back of the hand being implicated, and from the pain experienced in the front of the thighs and popliteal spaces, the inflammation would seem to have also slightly affected the fasciæ, thus uniting the characters of fibrous and articular rheumatism.

In this as in many other cases of rheumatism, we find that the disease appeared to be rather produced by causes which had been long in operation, than to be the result of one solitary exposure; and this is easily intelligible on the most approved view of the pathology of the complaint. Regarding it as intimately and essentially connected with an excess of lactic acid, or some of its compounds, in the circulating fluid, it is nothing more than we should expect, that the slighter degrees should exist without giving rise to any very characteristic symptoms, and that only with its increase should they become prominent. This all agrees

with an observation which has been frequently made, viz. that the health has been failing for some time before a rheumatic attack.

Considerable difference of opinion has for some time existed as to the best mode of treating rheumatism; and this has been manifested by corresponding diversity of practice. Some treat the disease on general principles alone, whilst others resort to specific modes; and colchicum, mercury, diaphoretics, opium, nitre, and alkalies, are by turns recommended. Under such circumstances, our only resource is an appeal to experience. A sufficiently extensive series of observations as to the efficacy of some of these modes of treatment appears to be yet wanting, to enable us to form a correct opinion as to their value. It is in respect to this subject that the present case derives its importance, as it may be taken as a fair example of the course of the disease under the remedial agencies employed in this instance.

In accordance with a common practice, the patient had been under the influence of stimulants and sudorifics for some time before admission, but without benefit; the failure of this mode of treatment the writer has seen strikingly exemplified in many cases of acute rheumatism during the past winter. After her admission into the hospital, blood was abstracted from the arm; this is useful by diminishing the irritability of the heart, lessening the quantity of the circulating fluid, and also reducing its stimulating qualities by favouring absorption. The common antiphlogistic combination of calomel and opium was then given, and followed by a purgative; the system being thus prepared, the rest of the treatment consisted in the administration of colchicum, with small doses of a neutral salt, to which, near the conclusion of the case, and after all active symptoms had subsided, iodide of potassium was added. Under this mixed plan of treatment, the improvement of the patient was most rapid;—in three days from the period of its commencement, she was able to walk, and on the following day she was almost completely free from either swelling or pain of the joints; so that all acute symptoms had subsided in eight days from the date of the attack. The patient was left somewhat debilitated, as might be expected, but an improved scale of diet, and another week's residence in the hospital, would, no doubt, have sufficed for the complete re-establishment of her health.

It would appear unfair not to attribute a considerable share in the success of the treatment of this case to the colchicum, since, after the first day, it was the *sole* active agent employed, and the improvement in the state of the patient only became striking on the third and fourth days after the treatment was commenced. It has been asserted by some physicians, *e.g.* Chelius, of Heidelberg*, that colchicum, when given in rheumatism, increases the quantity of uric acid in the urine; in the present instance, whether as an effect or a mere coincidence, it is certain that after the exhibition of the remedy for three days the quantity both of urea and of uric acid in the urine was largely increased.

It may be observed, also, that throughout the progress of the case, there was a disposition to constipation, although the colchicum was combined with small doses of a purgative salt, thus showing that the beneficial effects of that remedy cannot be (invariably) ascribed to its action upon the bowels.

CASES OF FRACTURE OF THE MAXILLÆ; WITH OBSERVATIONS.

By W. Lyon, Esq.

Lecturer on Surgery, and lately one of the Surgeons of the Glasgow Royal Infirmary.

(For the Medical Gazette.)

Case I.—*Compound fracture of superior maxilla, with much displacement—Symptoms of concussion of brain—Recovery.*

September 25th, 1841. Robert M'L., aged 46. Three days ago, while the patient stood with his face turned upwards, a stone fell from a height of 100 feet, and inflicted a wound three-quarters of an inch in length, which passed through the substance of the upper lip of the left side, and fractured and detached, with the exception of slight soft connections, nearly an inch in each direction of that part of the alveolary arch of the superior maxilla into which the incisor teeth and dens cuspidatus are inserted. The eyelids are ecchymosed, and the patient is occasionally incoherent. The pulse and pupils are normal. Before admission attempts had been made to retainthe fragment in its situation by placing a piece of grooved wood between the teeth, and fixing the lower jaw; but during the paroxysms of insensibility the patient removed the apparatus. He continued in much the same state for several days, and either would not permit, or immediately made nugatory, any means used for the retention of the fragment *in situ*. The pulse afterwards rose, the incoherence was not diminishing, and complaints were made of headache. The bowels

* Medical Gazette, vol. ii. p. 830.

were freely opened; 14 ounces of blood were taken from the nape of the neck by cupping, and a cold lotion was kept constantly applied to the scalp.

The incoherence very speedily subsided after this; the fragment was then kept in its place by attaching it to the adjoining teeth by means of fine wire, and supporting it upon the teeth of the lower, pressed constantly against those of the upper, jaw. The fragment soon united, and the patient was dismissed with very little deformity.

The only points worth noticing in the above case are, the mental incoherence, and the nearly complete separation of the fragment of the jaw; the reunion of which was nevertheless successfully accomplished. The incoherence was referred to slight concussion, and as it was expected to subside, it was not prescribed for until reaction took place; when the bleeding, purging, &c., immediately dissipated all the unfavourable symptoms.

It had been proposed to remove the fragment of the jaw previously to the admission of the patient into the Infirmary; but the relations fortunately refused assent.

The event shows the impropriety of the measure contemplated; for although the connections with the soft parts were so slight and so ragged that the fragment dangled loosely in the mouth, they were sufficient to maintain vitality, and after replacement, to secure the restoration of the functions of the part, and at last the perfect union of the bone. Had the piece even been completely detached, I believe that it would have been good practice to have attempted its reunion; and we have warranty enough, in well attested facts, to lead us to conclude that in all likelihood it would have become fast.

CASE II.—*Compound fracture of lower jaw.—Treatment of wound by suture—separation of lips of wound—union by second intention—cure.*

Daniel M. L., a carter. 15th November, 1841. Last night received the kick of a horse on the lower jaw. A ragged, lacerated wound, extends through the lower lip from its margin to the point of the chin, where the bone is exposed and fractured. A portion of the inferior alveolar ridge is likewise fractured. Many of the teeth are loosened, and all the front ones of the upper maxilla are knocked out.

Two stitches were placed in the lips of the wound; the loose teeth of the lower jaw were fitted into grooves made in a piece of cork, which was cut long enough to extend over several of the unloosened teeth on either side, and motion was prevented by a four-tailed bandage. The patient was purged, and kept on low diet, having nothing but spoon meat. On the 19th, the lips, throat, and tongue, were much swollen, and very painful; and the stitches had cut themselves out. Fomentations were used, purgatives continued, and within a week 30 leeches employed at different times.

The swelling having subsided, the granulating surfaces of the wound were retained in contact by twisted sutures, and soon united, and he was dismissed 13th Dec., some motion at the fractured part being still perceptible, but with the teeth which had been loosened firmly fixed.

CASE III.—*Fracture of lower jaw, complicated with wound on chin; no displacement.*

Stephen A., aged 28. Nov. 17, 1841. Last night, while attempting to stop a waggon, which was running rapidly down an inclined plane, by thrusting a crow-bar between the spokes of its wheels, he was struck on the chin by the handle of the crow-bar; by which the jaw was fractured. The symphysis, and soft parts over it, are divided, but the wound does not communicate with the fracture.

There was not any displacement, and the wound in the integuments being united by suture, a bandage, to prevent motion of the jaw, constituted all the treatment required.

CASE IV.—*Fracture of lower jaw by the explosion from a gun, into the mouth—laceration of uvula, mucous membrane of lips, cheeks, and pharynx—concussion?—death.*

John R., aged 23, 1841. August 24th, 12 P.M. An hour ago, while holding a gun with the touch-hole near to a flame of gas, the muzzle in his mouth, and blowing to ascertain whether or not the touch-hole was obstructed, a part of the powder contained in the gun was blown out, ignited by the gas,

and communicating with the powder in the gun, he received the explosion, and it is said the wadding also, into his mouth. The lower jaw is found fractured a little to the left of symphysis, and the right fragment is drawn backwards, inwards, and downwards. The soft palate is lacerated, and separated on the left side to the extent of an inch. There are several small ragged wounds at the posterior part of the mouth, and on the inside of the lips. There is some sanguineous oozing from the mouth. Pulse 96.

On admission, the edges of the wound in the soft palate were placed in contact and retained by suture; the four-tailed bandage applied over the chin, and secured upon the head. This plan not answering, however, the fracture was put up, with the teeth received into a piece of grooved cork, a compress under the jaw, and the four-tailed bandage over it.

Next day the fragments were again found displaced; there was much swelling over the left angle of the jaw, face, and side of neck, and some crepitation from the presence of air in the soft tissues; there was also inability to swallow, and slight obstruction to respiration. Pulse 120, tolerably full.

To be bled to 16 ounces, and to inhale the vapour of hot water frequently.

On the 27th it is reported, that an hour after the visit yesterday, he became so weak, that a second bleeding, ordered conditionally, was not practised; he has repeatedly vomited the water which is conveyed into the stomach, by means of the syringe and tube, to allay his urgent thirst; he has been occasionally incoherent, and the right pupil is dilated and sluggish; pulse 150, very feeble.

Died at half-past 9 P M., nearly three days after receipt of the injury.

Inspection, 40 hours after death.—The whole of the mucous surface of the pharynx is wanting, from behind the nose to the level of the fifth cervical vertebra. The membrane lining the larynx is of a bright red colour; some blood appears infiltrated into the substance of the scaleni and sterno-mastoidei muscles. No foreign body discovered in any part of the head or neck, and the brain was normal in appearance.

The cause of death in this case does not very satisfactorily appear from the account of the inspection. I now think that it would have been proper to have examined the condition of the cervical vertebræ, and of their contents, and also the state of the organic nerves traversing the neck. The symptoms forbid the inference that concussion of brain had occurred to any prejudicial extent. There was no paralysis, which would have been present had there been considerable injury to the spine or maxilla; there were neither intense symptoms of laryngitis nor any strongly-marked appearances of that disease; and unless upon the supposition, somewhat a vague one, it must be confessed, that the organic nerves in the neck had suffered, or that their lesion and that of the highly sensitive pharynx had depressed and overcome the vital powers, I do not see how the fatal result can be explained.

The principal practical inferences deducible from the foregoing cases, are, that the state of parts varies greatly in fractures of the lower maxilla, and consequently, that similar treatment is not applicable in all instances.

Contrary to usual observation, the fractures in the cases detailed, all occurred at, or near, the symphysis, where, from the capability of making the extremity of one fragment press upon and support the other, adjustment is more easily preserved than when the injury exists in the ramus, or above the angle.

When the periosteum and muscular investments of the bone are not lacerated, there is little, if any, displacement; and supporting the teeth of the lower on those of the upper maxilla by bandage, and maintaining quietude, as in our third case, will always suffice.

Where the fracture passes in a direct transverse line through the bone, or where the two surfaces break roughly, and lock into each other, there is not in general much displacement; and the means above referred to will commonly prove sufficient, or if they do not, recourse can be had to the grooved piece of wood or cork, with or without a ligature of wire around two or more of the teeth. These means, accompanied with a compress shaped to the semicircle of the inside of the jaw, and placed below it, where, being pressed by the bandage, and throwing out the fragment, which may be displaced by the muscular

action, will in general be sufficient to effect all that we have in view.

It is in cases where the fracture is oblique, and the investments are torn, as in our fourth instance, that difficulties in maintaining apposition are met with. When such a fracture is situated at the symphysis, the geniohyoidei, the genio-glossi, and digastric; when it exists at the angle of the jaw, the pterygoidei, temporalis, and masseter, cause displacement; and when in the ramus, the mylohyoidei and platysma, probably irritated by the sharp fragments, and acting strongly, cause the two portions to overlap, and one of them to be drawn within and below the other, as in the fourth case.

If, in such circumstances, the ligature of wire, the grooved cork, or both of these, with the compress under and within the circle of the maxilla, and pressure of the four-tailed bandage over it, do not retain the portions exactly, then the only resource with which I am acquainted, and which in such a case I think should be tried, is the apparatus described by Mr. Lonsdale, consisting of two metal plates, the one with a groove corresponding to the line of the teeth, the other with one receiving the inferior edge of the jaw, and the two plates attached by a screw, which permits them to be approached or separated at the will of the surgeon.

All the methods above mentioned, with the exception of Mr. Lonsdale's, I had tried unsuccessfully in the fourth case. The fracture was very oblique, and was no sooner reduced than it was again displaced; and it was my intention to have made use of Mr. Lonsdale's apparatus, which, though I have never seen it employed, is constructed on such principles as almost to ensure its efficiency.

ON HUMORALISM IN FEVER, INFLAMMATION, AND IRRITATION.

By T. Wilkinson King, F.R.C.S.E.

(*For the Medical Gazette.*)

*Is local inflammation a cause or a concomitant of fever? Analysis of Louis. There are preparatory deteriorations of fevers in every various grade, as also of inflammation.**

The opinion that local inflammation is a cause, and not a mere concomitant of fever, seems to be too generally contended for. My own reflections have often been directed against the view as a positive or unlimited one. A reproof for inexperience in the matter, somewhat readily expressed by one of my compeers, has set me to reconsider some of the facts of the subject.

About the same day one urged to me that herpes labialis often causes a fever, and another, that in the same case, according to his experience, pneumonia was seriously to be anticipated. Now I imagine there is little doubt that the same general disturbance may induce a fever, attended with acute inflammatory acts, in any two or six organs of the body.

An old pupil, who made free use of my manuscripts to support what I have long taught—that the fever following local injury is nowise proportioned to the violence, but to the previous state of the blood—yet describes the *irritative* fever of operations, &c. as very often the effect of mere arachnitis.

I am still informed by able physicians, that it is common to see fever depending on inflammation of brain; but reverting to the errors of Broussais, Armstrong, Clutterbuck, and Louis, I fall back on a coarse kind of general induction (furnished by the broad facts in pathology), which, although requiring much to render it precise, is in my judgment sufficiently clear, and far better than the most definite mistake, for the regulation of daily practice.

It seems to me in a manner fatal to medical philosophy to treat of fever in the exclusive manner pursued by M. Louis. Surely the most indistinct or transitory appearance of maculæ should weigh very little in determining the specific nature of typhus. And what shall we conclude from the fact that very many organs may or may not be very variously affected in fever; and that its especial morbid anatomy is confined to some constant, though often very inconsiderable inflammation of the iliac patches, and to some occasional similar disease about the epiglottis after twenty-five days of feverish breathing and decline?

What does it add to the physiology of fever to exclude all cases under fifteen years of age, and above thirty?*

* If it should seem that the following view is a repetition of former papers on Irritation in this journal, I would only observe, that they seemed to me to require this mode of procedure to extend and corroborate them.

* Between fifteen and a half, and thirty-nine; eight out of 140 were above thirty.

And lastly, where is the justice of admitting into the catalogue of fever rather more than *all* the minor grades of visceral inflammation, and determining that all other phlegmasiæ are quite different things?

The reason why we must not look for "affection typhoid" in the young, is, that more acute phlegmasiæ are apt to step in; that is, that a different diathesis prevails; these are, more healthy viscera, for example. In after life, which is especially concluded by *adynamic* fevers, visceral obstructions in different degrees and combinations preclude the plain course of "affection typhoid." At about forty years of age, when all the characters of irritative fever exist, except that we are unable to say what is the exciting local disorder, the matter is, that the phlegmasia is in a manner universal.

I admit that Louis has done something for precision, though little for philosophy. Lord Bacon illustrated a method, which he could not use as Hippocrates, Galen, Roger Bacon, and Servetus did. The simple workers in glass and brass have done much more than the chancellor to aid reflecting men. Our improvement, of whatever kind, goes along with improved means and circumstances.

I take an old manuscript analysis of M. Louis' anatomical deductions as one ground-work for the humoral considerations of fever.

The changes of residence, pursuit, &c. had a specific effect in inducing the typhoid cachexy.

The mean residence in Paris of the cases that died was 11 months.
„ „ „ „ „ those recovered „ 14 „

The female cases were only 32 out of 138, but the mortality of the cases was proportionately equal.

The age seems an essential of typhus.

23 was the mean age of 50 fatal cases.
21 „ „ „ 88 cases of recovery.

25: before this age recoveries were markedly more numerous than after it.

10 out of 46 cases died between the 8th and the 15th day of fever.
7 „ „ „ „ „ 16th „ 20th „ „
20 „ „ „ „ „ 20th „ 30th „ „
9 „ „ „ after „ 30th „ „

The lesions of the plaques, ulcerated pharynx, œsophagus, and epiglottis, are adduced as alone peculiar to fever.

Pharynx had one or more lesions, in one-sixth of the cases—false membranes, purulent infiltration or ulcerations.

Œsophagus had ulcerations in one-sixth of the cases—they were generally slight.

Stomach was natural in 13 cases.
„ „ "ramolli et aminci" (digested?) in 9 cases.
„ „ ulcerated in 4 cases.
„ „ less affected in the remainder; in 24 cases of which there was more or less of "état mamelonné," and various softenings—the colour being unchanged.

Small intestine, inflation of, in 14 cases.
„ „ „ „ considerable in 2 cases only.
„ „ „ intus-suception of, in 3 cases.
„ „ „ Plaques affected in *all* more or less.
declining from the cæcum.
„ „ „ Solitary crypts affected in one-fourth of the cases, more or less,
„ „ „ „ „ „ „ and near the cæcum.
„ „ „ Mucous membrane white in one-third of the cases.
„ „ „ „ „ „ red „ 17 cases more or less.
„ „ „ „ „ „ grey „ 11 „ „ „ „
„ „ „ „ „ „ good consistence throughout in one-fifth of the cases.
„ „ „ „ „ „ softened in four-fifths of the cases more or less in degree and extent.

The plaques and mesenteric glands were less affected in the protracted cases of fever—"retrogradation."

Large bowels inflated in one half of the cases—generally much so.

„ „ Mucous membrane white in 13 cases.
„ „ „ „ „ red „ 20 „ the extent varying.
„ „ „ „ „ grey „ 9 „
„ „ „ „ „ of natural consistence in one-fourth of the cases.
„ „ „ „ „ softened in three-fourths of the cases more or less in degree and extent. Sometimes thickened.
„ „ „ „ „ ulcerated much or little in 14 of the cases.
„ „ „ „ „ „ „ lenticular crypts in 8 cases.
„ „ „ „ „ „ „ "plaques dures" in 4 cases.
Glands, mesenteric, corresponding to plaques, red, thickened, and soft, in all the cases.
„ Mesocolic „ „ „ „ „ „ „ „ „ „
„ Gastric sometimes „ „ „ „ „ „ „ „ „
„ Hepatic twice „ „ „ „ „ „ „ „ „ „
Spleen affected in all but 4, large, "often quadruple" and soft; always soft if very large; less affected after the 30th day.
Some morbid states of the spleen are sequelæ, but such are rare.
Liver softened in half of the cases, &c.
Bile affected in most of the cases, and in excess.
Gall bladder contained a pus, in three of the cases being thickened and inflamed.
Kidnies generally healthy, but soft and tumid in a few.
Heart softened in half of the cases, more or less, being thin and red and lacerable, and containing dark blood.
Aorta red and tender within, in all of the cases where the heart was affected.
Epiglottis thickened and eroded in one-sixth of the cases; slightly covered with lymph in 2 cases.
Larynx, false membranes in 3 cases.
„ a little ulcer in 1 case.
Pleuræ, reddish serum, about ℥xv. in nearly half of the cases.
Lungs, splenized or hepatized in two-thirds of the cases only, more or less.

Now it is doubtless well to have a fixed distinction between the cases described by Louis and all others—it is even very essential to distinguish the differences in the cases he records, but it is first of immense importance to determine if these be specific with all their gradations, and if all ulterior grades be otherwise or oppositely specific, which I do not believe. Surely a little more of an active affection in head, chest, or belly, cannot be sufficient to characterize the case as a phlegmasia, and not fever.

The present state of opinions appears to be, that fever may arise from local injury, local inflammation, local poisoning, (becoming general), and from constitutional causes *idiopathically?*

Now we know that all kinds of transitory fever come and go, and leave no trace; and that others may or may not be attended early or late by local inflammation in any part of the body. Dr. S. Smith in 1830 justly distinguished serious fevers as having predominant local affections in the head, chest, or belly; we should add, in the limbs also. Dr. Hodgkin much earlier hinted at humoral views, of which he has given a sketch in his Pathology of Mucous Membranes. I have before explained the basis of my own opinions (see Toothache, Med. Gaz., January 1842, and the Physiology of Angina and Asthma, Med. Gaz., 1841).

No one seems to contend for the existence of any one uniform cause of fever, and yet anything may, it would seem, be such a cause occasionally. It would almost appear as if the great alarm bell of the City could sound at times without a cause or from any cause, and yet that the greatest cause may often fail to excite its feeblest note. An eminent surgeon, spending a week out of town, was tempted, though seeming well, by a bottle of aperient on his mantel-shelf. Three or four days of feverishness followed. A somewhat delicate student travelled 100 miles on a frosty night upon a stage-coach without a great coat, and experienced little more than a few hours of fatigue. Now to say that the state-

ment of such facts is puerile, I freely allow; but on the other hand is it not true that such things do not have their due weight, meaning, and explanation, when sympathy and irritation, and sympathetic fever are under process of illustration even by "orthodox Hunterians"?

Not to set down my own experience numerically, I would first, then, divide fevers into two series—those which leave the patient to all appearance as well as ever, and those which end fatally; (it is evident that a third set of cases remain, namely, those in which a settled disorganization, as amentia, or abscess, is left to exert its ulterior influence). It is most certain that the grades in the two series are about as numerous as the cases that occur; yet I offer no objection to the terms by which writers designate their classes and orders. Every distinction should be admitted to characterize the form of a local inflammation; but when we come to regard fever as a process, what is it but a train of *general* capillary disturbances more or less complete and extended? And what is inflammation but a course of *local* capillary acts? And what regulates the action of capillaries, locally or generally, so much or so directly as the blood sent to them, whether for nutrition or for secretion, for disorder or for repair.

Let us grant some effects of sympathy and of still more manifest nervous influences; but let us not deny heedlessly that the rise and course of fever may be universally of one kind—gradual deterioration of blood from all causes, and the convalescence a gradual restoration of the blood.

Some preparatory deterioration can alone account for the acute fever after common injuries;—loss of blood, cold, abstinence, rest, and physic, may add to the mischief. So in simpler fevers.

Some preparatory deteriorations are necessary to the production of pneumonia; and the patient's viscera, his bedroom, and his medicines, regulate the changes of his blood to death or to recovery. I would wish to define inflammations as altered nutritions—tumefactions, watery, fibrinous, bloody, purulent, softening, indurating, &c. Compounds of "alo" might express these bad, excessive, and deficient changes of nutrition.

Andral shows fairly that the blood superabounds with fibrin in phlegmasiæ, and not in fevers; and no doubt the two opposite febrile conditions are marked enough, but without any kind of boundary. To establish typhus are we to exclude every thing else? If so, I contend that the exclusion of fatal local disorders of nutritions excludes all that is fatal, except a few cases which most resemble sudden poisonings of the blood.

In all countries, particular constitutions, with particular seasons and habits gradually fall into a state of disorder. Sooner or later, sporadically or epidemically, the national fever, with maculæ, jaundice, or buboes, may affect them, (I do not deny contagion), and in the course of days sanguineous changes of nutrition may bring some vital organ to destruction, or the whole body to restoration, as if by excretory depurations.

It is not more repugnant to humoralism than to any other doctrine, that the national diet should determine the local changes of fever and of phlegmasiæ, or that climate and peculiar seasons should act in a like manner, or that certain influences should be most obnoxious in certain ages of life. It is not more true that one "*enfeebles his vital powers by over stimulations*," than that alcohol may deteriorate the blood, digestion, maturation, secretion, and depuration.

It is not surely very inconsistent that impeded renal secretion should alter the character of inflammation and fever, or that a fixed degree of disorganization in any organ should produce similar effects; but it is an inconsistency, I think, to say that the fever, or phlegmasia, which is simply, though necessarily, modified by any old disorganization, is therefore not a fever or a phlegmasia.

In a protracted case of violent tertian, I once observed to an old clinical teacher of mine, there is nothing strikes me so remarkably in this patient as the copious urinary sediment after the attack. The answer was: why, this is only an usual symptom of the disease: my own mind occupied itself with the inquiry—is it merely a depuration of the blood after the disorder, or is it more connected with the cause of the disease?

Hectic is an extreme case of susceptibility to the external impressions of cold, food, or medicines; and it is by the judicious and careful exclusion of

fresh disturbances, together with the most cautious supply of invigorating remedies, that the power of resisting outward agencies may increase, and vigour by degrees be regained. No less certain is it, that excessive heat may add to the debility of hectic, than that moisture and warmth increase the discharge from an open fracture. Cold certainly induces a hectic fit, and excretions attend its decline.

It may very well shock some physicians to talk of acute peritonitis as one proper attendant on fever, yet the ordinary distinction of cases may be still more erroneous. The rapid attack which obliterates the serous cavity with cellular membrane, is in a manner harmless, while the fever case, which ends quite unexpectedly, with a pint of pus and bloody water in the belly, may never have been suspected to have been inflammation at all. The sympathies of the two cases are different; for the inflammations or deposits from the blood occurring elsewhere are peculiar in each case. The inflammatory changes proper to what we call fever, when fatal, are scanty, watery, and softening, in any or every part of the body. Phlebitis, and hepatic abscess after injury, or not, are but two modes of inflammation in a fevered body*. The changes may occur in several parts of the body pretty simultaneously, but morbid anatomy teaches us, that whether fibrinous, gangrenous, watery, or purulent, the only difference which several depôts present in the same body depends on the age of the product, or on the state of the constitution at the moment of producing it. We do not find serum in one lung, and fibrin in the other; bloody effusions in the belly, and purulent in the chest. The terms "hæmorrhagic diathesis," "inflammatory disposition," and "tendency to deposit pus," offend no one, and morbid anatomy greatly extends the application of such expressions. If a stump heals well, and the patient take cold, and have a solid pneumonia, it is not more wonderful than that fever, with an ill-conditioned wound, should introduce suppurations or itises in four or five distinct parts of the body. I think thus we may understand why there should be successive periods of recovery and relapse in the course of such cases even to death or recovery.

On the whole, we conceive that it is nearer to the truth to call all that fever which is allied to it. Thus we find clear room to arrange the deteriorated humoral capillary acts (by which I mean processes) which attend fever in somewhat of a natural series. Some are deficient or atrophic, some are excessive in the way of secretion or nutrition, and all are marked by some degree of deterioration up to a certain moment, after which it would seem that secretion, assimilation, and nutrition, may be gradually restored to their fullest healthy action; or disorganization ensues, which directly or ulteriorly proves fatal.

If ague be fever, is not that fever which, every ten or twenty days after fresh incidental deteriorations of the body, introduces renewed inflammation of strumous parts, or of catarrhal membranes? Simple acute ophthalmia and fever occur in one *predisposed*, while equal external causes applied to an entire regiment leave it with sound eyes, or rather with here and there one man disordered after a peculiar manner —more or less feverish or inflammatory —having any one or more organs inflamed or altered in a certain especial way, according to the state of his blood, and the efficiency of his blood-making and blood-cleansing organs.

I presume it to be very different from current opinions to regard fever as but partially modified by local inflammations; and yet even this scarcely seems a sufficiently exact expression without amplification.

The diathesis and deteriorations being given, and the consequent form of fever, and also the seat and character of local inflammation, being settled by the same causes as the fever, we may well consider what effects result from pains, and from arrested or impeded function, in any one organ, nervous, physical, or humoral. Ischuria may cause serous inflammations, diarrhœa, or emesis, without sympathy. Paraplegia may induce various defective secretions and inflammations through want of abdominal support, want of motion, &c.

It is very little to say that I have

* Visible pus in a vein or lymphatic is a positive proof that the circulation of the vessel has been long arrested. The absorption of pus to mingle with thirty pounds of blood, and yet be visible bodily in the heart, would be absorption with a vengeance—about equal to metastasis of the walls of an abscess!

been long seeking a simple case of fatal fever, and it may not seem to many very significant to observe that, with much knowledge of morbid anatomy, I know nothing of the changes peculiar to fever besides those which characterize a certain type of inflammations; that I know of no one organ, or set of organs, being affected, save the universal changes in the capillary system and its directing blood.

Every age, sex, and class, local clime, and season, has its peculiar febrile disorders; all modes of life, and remarkably all changes of mode, have theirs. Take simple cases of the resolution of fever and phlegmasia—take the worst cases of fever, and of various inflammations, that recover—and what do they offer in proof that the phenomena attendant on two-thirds of the cases of "affection typhoid" is more feverish than heat of skin and massive hepatization of lung without typhus? Is it not more truth-like that all the grades of pneumonia, or icteric fever, are local effects of sanguineous deterioration? What shall we say of such cases as the following, the like of which almost all seem determined to hold as mere local irritation? An old gentleman had calculus, and it was not deemed desirable to operate on him, as he suffered very little. "He was a convivial man, dining a great deal in society, as if he had no ailment. Every now and then he was suddenly seized with the usual symptoms of stone in the bladder, and very severe ones too: he then (says Sir B. Brodie) sent for me. I kept him in the horizontal posture, prescribed him an opiate clyster, and in the course of a few days, sometimes sooner, sometimes later, the attack subsided; he was again at his ease, and able to return to his usual habits. I had thus been occasionally in attendance on him for three or four years, when he was seized with a severe cold, which ended in a pleurisy, of which he died. On examining the body, I found the stone embedded in a cyst near the fundus of the bladder. The cyst was formed in this case, not by the protrusion of the mucous membrane between the muscular fibres, but by a dilatation of both tunics of the bladder, the muscular as well as the mucous. The stone was not, it seemed, so closely embraced by the cyst as to prevent it occasionally slipping out of it: I suspect that this actually happened, and that it was when the stone lay in the cyst that the patient was free from the usual symptoms of calculus, and that his sufferings took place when the stone escaped from it into the general cavity of the bladder." These details may, by license, be used to illustrate the author's opinion; but we know that the relapses of cystitis and pain occur without the existence of pouches, and even without stone. The patient's habits, exposure, and wine, prepared for a feverish relapse; care and time obviated the inflammatory diathesis; at length, an overwhelming seizure came. Is it not very plain that the ever-varying sensibility of the bladder to the presence of stone depends, first of all, on the state of nutrition which it derives from the blood? A stone grasped in the summit of the bladder, or loose at its base, may give no pain for months. Well-nourished heels do not easily blister. Irritable bladder varies with the health of the blood, and a watchful eye discovers commensurate signs of fever, not the consequences of the local state but of the general disorder concomitant, which any part already subject to disorder may have to bear the brunt of.

If it is again necessary to excuse the method I pursue, I would claim some consideration on the score of weakness, especially considering the array of opinions against these views. My "Views of the First General Laws of Medicine," &c.* and of "Variable Disorders,"† are, I think, reasonably carried out by the present.

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THE OPERATION OF LITHOTOMY;

A Modern Cheselden!

(For the London Medical Gazette.)

In the eighteenth century, a surgeon named William Cheselden, who signed himself "Surgeon to his Majesty's Royal Hospital at Chelsea," and who, moreover, there is every reason to believe was surgeon to St. Thomas's Hospital, London, wrote as follows: "What success I have had in private practice I have kept no account of, because I had no intention to publish it, that not

* London, Churchill, 1840.
† Guy's Hospital Reports, No. 11.

being sufficiently witnessed. Publicly, in St. Thomas's Hospital, I have cut two hundred and thirteen; of the first fifty only three died; of the second fifty, three; of the third fifty, eight; and of the last sixty-three, six;" and at the close of his interesting paper on the subject says, "If I have any reputation in this way I have earned it dearly, for no one ever endured more anxiety and sickness before an operation, yet from the time I began to operate, all uneasiness ceased; and if I have had better success than others, I do not impute it to more knowledge, but to the happiness of a mind that was never ruffled or disconcerted, and a hand that never trembled during any operation."

In the nineteenth century, one who writes himself down "William Keith, M.D. Junior Surgeon to the Royal Infirmary, Aberdeen," states* that of "nineteen cases operated on by lithotomy, aged from fifty to seventy-eight, only one died," and therefore he "trusts he has a sufficient apology for coming before the profession with a detailed statement of a mode of practice that has been crowned with such signal success." Dr. Keith, too, modestly "refrains from contrasting the above results with the recorded experience of others at like ages, lest it should seem invidious," although, inadvertently perhaps, he reminds us that "the mean mortality in England is one in seven and one-fifth; that in France between a fifth and sixth of all who undergo the operation are lost; that in England beyond the age of fifty, the rate of mortality rises to one in four or five, while in France, on the authority of the most eminent French surgeons, it reaches one in every two or three." "Considerable interest must therefore," says Dr. Keith, "attach to a mode of operating and plan of treatment that has led to such results" as have occurred in his own practice.

We confess that we were somewhat anxious to learn "the mode of operating and plan of treatment," and therefore, although with sundry misgivings on the subject, looked eagerly for the promised account. We read it, and feel both pleased and disappointed: pleased with the full appreciation which the author displays of the most important features of the operation; and disappointed at the vein of egotism, and even occasional worse taste, which pervades the whole paper*. We have looked in vain for any striking novelty either in the "mode of operating" or "plan of treatment": what is good has been known, expatiated upon, and held practically in view, by many others, and some that is new is of questionable character.

The author has cut his subject into eight different sections, through which we shall endeavour to follow him with a brevity fitted to our own pages.

1st. "*Of the preparation necessary before subjecting a patient to lithotomy.*" Dr. Keith advocates a preliminary treatment, and recommends rest, alteratives, tonics, specifics for allaying irritations of the affected organs, and such other means as a scientific professional knowledge would at once point out as advisable in all cases when an important operation is required, and where delay would not be productive of harm. He recommends the abstraction of blood from the arm, or by leeches over the pubes, in persons between 50 and 55, who are fat and florid, and also after the latter practice a "succession of medium-sized blisters over the region of the bladder." To the blood-letting we do not object, but if counter-irritation should be deemed advisable, the cantharides ought, in our opinion, to be used with some caution; a strangury would add greatly to the patient's sufferings. Dr. Keith imagines that it is almost essential to the success of lithotomy, that the surgeon should secure the "well-grounded" confidence of the sufferer, and thinks that the period employed in preliminary treatment may be advantageously used by the practitioner for this purpose. A list is given showing the number of days after admission which each out of 23 cases has been subjected to. The periods vary from four days to seventy-four: in few cases are the dates alike, yet an average is struck showing 25$\frac{1}{23}$ days on the aggregate amount. Three are cut on the 14th day; two on the 24th; three on the 25th; and all the rest on different days. We have been puzzled as to any practical deduction to be drawn from the above arrangement, and fancy that the calculation has as

* Edinburgh Medical and Surgical Journal for January and April, 1844.

* Practical Observations on the Lateral Operation of Lithotomy. Edinburgh Medical and Surgical Journal, April 1844.

much useful reference to lithotomy, as if the number of miles each patient had walked from his house to the hospital had been counted up, and the average given.

2d. *The instruments* recommended are a staff, knife, probe-pointed bistoury, blunted gorget, slit probe, and sharp hook. The staff and knives differ in no material respect from those recommended by other good authorities, and the probe and hook are part of the apparatus which a surgeon generally has at hand when setting about any cutting operation. We agree with Dr. Keith in his opinion that Cheselden's forceps have never been improved upon (except in lining their chaps with linen), but object to the gorget which he uses, as being altogether unnecessary, dangerous, and just that part of Cheselden's apparatus which may with propriety be omitted: "its left edge is quite rounded, the other ground to an edge and then blunted with a file," and we shall see immediately to what use it is applied.

3d. *The first incision* our author places very low in the perineum. He commences close to the raphe, behind the swell of the bulb, one inch in front of the anus, and proceeds about three inches outwards and backwards, keeping rather closer to the tuberosity of the ischium than to the anus. He objects strongly to any interference nearer the scrotum; pointing out what he considers the danger of wounding the artery of the bulb, and of cutting down on the symphysis pubis instead of the lower opening of the pelvis. In our opinion far too much importance is placed on the particular seat and line of the incision recommended by Dr. Keith, and we do not by any means assent to his arguments for keeping the external wound so low. The wound in the skin is made with the double intention of facilitating the access to the deep-seated parts, and permitting the ready escape of the stone. Now we imagine, that by keeping so near the hip, the operator is further from the parts which should be divided than if he were passing a little nearer the pubes, and we also think that undivided skin in the fore part of the perineum is likely to prevent the free use of the forceps, both in catching the stone and in its extraction. We advocate a high incision in the perineum, because it permits a ready approach to those parts which all admit are implicated in the operation, viz. the membranous portion of the urethra, prostate gland, and that part of the bladder covered by this organ, and we maintain that while it greatly facilitates all the steps of the operation—provided it be carried downwards to a full and proper extent—there need be no such dangers incurred as those which Dr. Keith refers to: neither need the artery of the bulb be wounded, nor is it a necessary consequence that the future stages of the proceedings are all conducted high between the rami of the pubes. The free division of the skin over the bulb does not of necessity involve that part itself, and we maintain that the very parts which our operator aims at cutting will be reached with additional freedom by this preliminary step. To the best of our recollection all lithotomists have carried their cutting instruments into the bladder in a horizontal direction, some in a downward line—especially at the neck of the viscus, and considering the relative position and attitude of the patient and operator, the latter could not carry his hand and instruments in any other direction without inconvenience. In Dr. Keith's own drawing representing his lines of incision, we fancy, supposing that the operator is seated in front of the perineum, that the hands are in a most awkward direction; they would be so were the operator on his knees even. It is evident, too, that to complete the incision, whether with the knife or bistoury, the attitude must be much the same, else the upper part of the wound will impede any attempt to carry the cutting instrument nearly parallel with the staff. But to be brief, Dr. Keith's own sketch furnishes the clearest argument against his own external incision; for it is evident that it would be impossible to seize with the forceps the stone in the lower part of the bladder without applying great stretching force either to the skin or to those parts which attach the neck of the bladder to the pubes. We have never looked upon Sir Charles Bell as a high authority on the subject of lithotomy, yet we do not agree with Dr. Keith in his criticisms on that surgeon's first incision: on the contrary we think Sir Charles's much to be preferred to his own, both in respect of its

height in the perineum, as also its greater proximity to the mesial line; and besides, we maintain that it makes a nearer "approach to the outlet provided by an all-wise Creator in the other sex," than that which he advocates towards the hip. Look at the perineum as the operator sees it before he applies the knife! Supposing he was asked to place his finger on that part of the surface nearest to the neck of the bladder, would he not lay it on the mesial line a little in front of the anus? Assuredly he would not place it upon that prominence which is always conspicuous (especially in the fat subject) midway between the anus and tuber ischii. Dr. Keith, in our estimation, entertains an absurd dread of wounding the artery of the bulb: we ourselves have no such fear; we doubt if there be the danger attending its division which many have asserted, and, moreover, we say that the operation is dangerously executed when the knife is thrust in such a direction as to implicate this vessel. We cannot but fancy that an incision near the mesial line, while it is evidently nearer the neck of the bladder, permits of greater dilatation than that towards the tuberosity of the ischium; and that, in following the directions of Dr. Keith, there is more danger of coming in contact with the pudic artery itself than of wounding the artery of the bulb in the mode of proceeding followed by most of our best operators. We agree with our author in his estimate of the dangers of the operation when performed high in the perineum; beyond a doubt, much havoc has been produced by this improper proceeding: we trust, however, that, in expressing our dissent from his low external wound, and recommending that it should be made much higher, we shall not be supposed to inculcate that the remaining steps of the operation should also be conducted nearer the angle of the pubes. We perfectly coincide with Dr. Keith as to the locality and extent of his further incisions; but as he has, in a manner, challenged attention to his first incision as being superlatively good, we have deemed it right to state our opinion to the contrary; and we must say, in addition, that he has not sufficiently appreciated the distinction between beginning the external wound high in the perineum, and continuing the future steps of the operation in the same position. He has not done Sir Charles Bell justice on this score; for that surgeon was well aware of the danger of being too near the pubes, and expressly cautions us to avoid such a mistake.

4th. *The second incision* is, in our opinion, just where it should be; but we take leave to doubt if the author ever made one of the kind in the way he recommends. First, the membranous portion of the urethra is opened with the knife used to begin the operation; then the beak of a probe-pointed bistoury is placed in the groove of the staff, and the blade is carried onward so as to make a slight notch in the apex of the prostate; thereafter a gorget, with its cutting edge purposely blunted with a file, is thrust towards the bladder in such a manner as to divide an additional portion of the gland in a line continuous with the notch already made with the bistoury. We ourselves doubt the possibility of cutting the prostate gland with an instrument which has been intentionally made blunt; and much as we dislike the cutting gorget of Hawkins, we should certainly prefer it to the blunt instrument of Dr. Keith: nor will it alter our opinion if we are referred to that gentleman's success in its use, as we might easily shew, by reference to Mr. Green's practice, and that of others of acknowledged skill who have used the cutting gorget, an amount of success far beyond that which has yet been attained in the Aberdeen Infirmary. When we reflect on the well-authenticated casualties which have followed the thrust with the sharp-edged weapon, we feel inclined to congratulate Dr. Keith that there has been no getting between the bladder and rectum, nor between the bladder and pubes; no awkward slipping, plunging, or perforating, in his hands; and we say fervently, God save all who are to be treated with the blunt gorget in future! Our author has here copied the most useless feature in Cheselden's operation; but instead of leaving bad alone, he has made bad worse. So far as we can perceive, Cheselden used his blunt gorget solely as a conductor: it was slipped by him, easily and without force, into the bladder after he had made his incision into the prostate, and the forceps were slid along its

concave surface. We have always thought that the substitution of the forefinger of the left hand, as used by some of our best modern operators, has been a great improvement on Cheselden's proceeding. If dilatation be thought necessary whilst entering the bladder, we hold that the finger is to be preferred to the blunt weapon of Dr. Keith; and in the majority of cases it is additionally useful in detecting the exact seat of the stone, and in placing it in a favourable position to be seized readily with the forceps. It must be remarked that Dr. Keith wisely recommends the gorget to be passed onwards "neither with force nor in haste, but by a firm and steady movement, guarding against the possibilities of a plunge," &c. &c.; and, moreover, that with sundry other good precepts, he warns all beginners to trust to "a calm collectedness of mind ready for any emergency;" yet withal we should shudder to see a tyro attempt to cut the prostate with an instrument specially blunted for the occasion. We shall expect, in due time, some statistics of amputations done by the same dexterous hand, accompanied by a drawing of the amputating knife, having one edge "quite rounded, the other ground to an edge, and then blunted with a file." The practice might be termed the Northern Paradox!

We have already hinted at the danger of coming in contact with the common pudic artery in the peculiar external incision recommended by Dr. Keith, and feel strengthened in our opinion by what he states with reference to the deeper part of the wound. After the bistoury (which by the by really has a cutting edge) has been thrust into the bladder, "I usually," says he, "in withdrawing it, bring it out of the prostate, and take a sweep along the lower angle of the wound out to the very skin." Now when it is considered that by the natural gaping of the wound, as also the pressure with the knife, the margin of the *very* skin must lie almost over the tuber ischii, we imagine that we have not in any way overrated the danger to the common pudic artery. Dr. Keith, we think, has been fortunate in avoiding it.

We regret that our limits will not permit us to follow Dr. Keith much further, but having given free expression to our feeling, where we disagree, we feel no less bound to state that the tenets and practice inculcated by him on other points than those to which we have called attention, are such as meet with our general approbation. In his advocacy of gradual dilatation of the neck of the bladder in preference to the free incision, we heartily concur: his directions to avoid bruising the soft parts we think most excellent: he overrates, in our opinion, the dangers from bleeding, but has clearly shewn that the most certain preventive of infiltration of urine is to limit the incisions within the bounds of the prostate. His observations on wounds of the rectum are especially worthy of notice, and we join in his opinion that the accident, when unfortunately it does occur, is of far less moment than it has usually been deemed. We think with him and all other authorities that great care should be taken to avoid this part, but have our suspicions that it is more frequently wounded than lithotomists have admitted! The effects of such a wound may be troublesome, but the additional danger from it (if there be any at all) must be of the most trifling kind.

On the treatment after the operation, Dr. Keith exhibits much professional judgment and skill. Perhaps this section, and that on preparatory means, are the most commendable of all he has written, and he has done well in showing that much is required on the part of the surgeon besides the extraction of the stone. His directions for the after-treatment are most admirable.

And here we wish we could take leave of Dr. Keith for the present, with a hope that his success may continue, but we feel bound to follow him yet a little further. "One other principle," says he, "that has exercised great influence over my success, I must announce before closing. Believing, as I firmly do, that the issues of life are wholly in God's hands, I never fail urgently to implore his presence and blessing on every operation. From my bended knees I approach the operating-table, the immediate effect of which is to impart to me a calmness that nothing can ruffle, a self-possession that has never been disconcerted—(and occurrences have happened that might have embarrassed any one)—a steadiness of hand, and

fertility of resource, that I thankfully acknowledge as gifts from God, while the final results have come out only such as could issue where the blessing of the Almighty descends."

This "other principle," we make no doubt, is applied solely with reference to the safety of a fellow-creature about to undergo a dangerous operation; it would be unfair to suppose that Dr. Keith has a greater desire for personal *éclat* resulting from success than other surgeons, and it is but reasonable to conclude that he gives all his other patients similarly circumstanced the benefit of this feature of his practice. In operations for hernia, for aneurism, for the removal of tumors, in amputations, &c. &c., we fancy that life is in as imminent peril as in the instance of lithotomy, and it is beautiful to contemplate this blending of the most sincere acts of devotion with the consummation of skill in the healing art. The sacred character of the proceeding places it beyond and above all criticism; yet we may doubt the good taste of this ostentatious display of piety on the part of a surgeon. We hold it as a maxim, that in this Christian country every surgeon is deeply imbued with reverence towards the Divine Author of our being, and we do not hesitate to express our conviction that many who may possibly not have had the same success as Dr. Keith, have nevertheless had as devout a feeling of reliance on the blessing of God. We have no objection to Dr. Keith taking to his "bended knees" before he performs his operations, but the published parade of his sanctity is, in our opinion, wretchedly misplaced. We could not but contrast the modesty with which *the* Cheselden alludes to his success—as exemplified in the extract with which we have commenced this article—with that of the modern Aberdeenshire lithotomist. Dr. Keith certainly, after enumerating all his good qualities—such as "self-possession," "steadiness of hand," "fertility of resource," &c., admits them all to be "gifts from God," and we are led to believe, too, that these gifts were not greater than the exigencies demanded, for we are expressly told that "occurrences happened which might have embarrassed any one." We have wondered what those "occurrences" were, for we cannot see that there was anything much out of the ordinary course in the cases alluded to. The heaviest stone seems to have been twenty-eight drachms, the average weight of all, eight drachms and fourteen grains; and, so far as we can perceive,—saving the author's own peculiar style of operating—there has been nothing extraordinary in any single case.

We suppose it is a weakness in our character that we should always look with suspicion on any one who professes greater sanctity than his neighbours, and we in a manner flatter ourselves that it has been our "gift from God" to judge of things as we find them. Out of nineteen cases of certain ages, Dr. Keith has lost only one after lithotomy, and this he makes conspicuously clear; yet out of twenty-three cases he lost two! The success is most creditable, yet it is not by any means equal to what has occurred in the practice of other surgeons. If we mistake not, a northern contemporary, Mr. Chrichton, of Dundee, cut his first two and twenty cases with success; and need we remind our readers of what happened with Blizard, Martineau, and others? On turning to Dr. Keith's cases, we find that of the first five cases he lost one, of the next nine he lost another, and that the other nine have recovered: yet is there anything extraordinary in all this? The late Mr. Lynn, having performed lithotomy five and twenty times successively without losing a patient, vaunted himself on his success; he thought he had discovered the "secret of lithotomy," but he was known to have said in after years that "God had punished him for his presumption, for the very next four that he cut all died." We all know the extraordinary success which Martineau enjoyed in one period of his practice,—he having operated in eighty cases, with the loss of only two; and we know also that the most distinguished practical surgeon of the day in Scotland*, who has had far more ample experience than Dr. Keith, of Aberdeen, has no reason to plume himself on his high average of success; yet here we have a junior surgeon, who happens to have lost two cases out of twenty-three—being all that he has operated on by lithotomy—boasting of his extraordinary success, and writing of

* *Vide* Syme, in London and Edinburgh Medical Monthly Journal, for December, 1842.

the operation as if it had never been practised before, either to the like extent, or with such results! This reminds us of an old village practitioner who used to congratulate himself on his success in reducing strangulated hernia; "HE had never used the knife, whatever Astley Cooper, Dupuytren, and others, had done;" and we have a recollection of another genius in surgery who lost his second case of amputation, but congratulated himself that it had been the *only* unsuccessful case of *all* he had treated! This boasting of success is always suspicious, and Dr. Keith will please excuse us admitting any superior peculiarity of system until he can show numbers and success equal to those that are already perfectly familiar to every well-educated surgeon.

NOTES OF A SECOND MESMERIC EXHIBITION.

(For the London Medical Gazette.)

THIS was what was called a *private sitting*, being held (July 19th) at the house of the physician who now reports it, and who reported the former. On this occasion, M. Marcillet, of course, received his usual fee of five guineas for the performance. The company consisted in all of less than twenty. All present were medical gentlemen except *five*, two of the five being of the respective ages of fifteen and sixteen*.

It being well known that the mesmerisers are in the habit of attributing failures, when they occur, to the uncourteous or hostile interference of the disbelievers, it was predetermined that on the present occasion MM. Marcillet and Alexis should not only have every courtesy shewn them, but should not be interfered with in any way, except in so far as was absolutely necessary to ensure anything like accuracy in observing the proceedings. And this determination was rigidly acted on throughout; M. M. being given distinctly to understand that he was to follow his own plans, the company being simply spectators, unless called on by M. M. himself, to assist him or his ward. One of the company agreed to take notes of the proceedings in short-hand. This gentleman placed himself in a corner of the room at some distance from Alexis, in order that he might not attract the attention of the latter. I thought he remained unnoticed, but it was afterwards found that he was noticed by M. M., and his presence was urged as a grievance by M. M. *but not until after the occurrence of many failures.* It is most certain that the process of note-taking was conducted with the greatest calmness and reserve, so as to be unnoticed by almost every one in the room. This precaution was purposely taken in order to avoid giving offence to M. Marcillet, or interfere in any way with the proceedings of Alexis. It was arranged that, during certain of the experiments, the minutiæ of which the short-hand writer could not distinctly see, another of the company should quietly communicate the facts to him.

About nine o'clock, M. M. proceeded to magnetise Alexis by sitting down before him, and steadfastly staring at his countenance. In the course of five minutes, or less, Alexis began to yawn and stretch, and immediately afterwards appeared to fall asleep. After a few further manœuvres, M. M. considered him in a proper condition for action. He had previously prepared the apparatus for bandaging the eyes, but when this operation was going to be set about, Alexis declared his intention not to be bandaged. This was, of course, immediately complied with, without any reason being asked or given; and on Alexis proposing to play cards, a new pack was laid on the table and a gentleman of the company selected to play with him, as being known to Alexis, and considered by him and M. M. as favourable at least to mesmerism, if not a full believer in it.

I. The game was to be *Ecarté.*

a. Alexis took the pack, threw out out the superfluous cards, and the game proceeded in the usual manner—*the cards being dealt in the usual manner*, sometimes by Alexis, *and played with their faces upwards.*

b. After a hand or two thus played, Alexis proposed to continue the game

* It is a minute and not very important circumstance, yet one worth mentioning, as showing as well on what small matters these exhibitors glorify themselves, as how their asseverations require being checked by calmer observation, that on this occasion M. Marcillet boasted not a little of the wonderful perspicacity of Alexis, in finding out, and telling him (M. Marcillet) that all the party were medical men *(médecins)* except *two.*

with a partition, or skreen, placed between him and his partner. The skreen used was a music-book (11 inches high by 14 wide) supported at the back by a small round sofa-cushion. Several hands were thus played, Alexis playing his cards down on his own side of the partition, or handing them over it, or round the end of it, and his partner laying his cards down on his side of the partition. Although the skreen was too low to prevent all *possibility* of vision, except when the cards of his adversary were kept very close to the cushion (which was on the adversary's side), and although they were not always kept thus close, still, as it cannot be proved that Alexis did see any of his opponent's cards, little or no stress is laid on this circumstance; the fact is merely mentioned historically, and as a hint for future experimenters.

The following is the account of this part of the performance from the notes of the gentleman who took them at the time.

"*First game.*—Alexis made a mistake in commencing the first hand, by desiring his opponent to play *a spade*, and he stated that his opponent had *four trumps* in his hand when he had *not one*. In the second hand, Alexis said that his opponent had *the ten*, which he had not; but he stated, also, that he had *two trumps*, which was correct; and also that he had *the seven*, which again was correct. In the third hand he was again mistaken in regard to the *trump card*, which he said was a *diamond*, when it was a *spade;* but although he was wrong in regard to the trumps, the cards afterwards fell as he had previously said they would fall. In the next hand the trump turned up he said was a *heart*, when it was a *spade*. He then asked for *five* cards, when he only required *three*. In the next hand Alexis was correct in statements *four times*, but was *wrong in three*.

"*Second game.*—In commencing the next game, Alexis was mistaken in the *trump*, and also in the *number* of cards wanted; and, on the whole hand, he was *twice correct*, and *twice in error*. In the second hand the cards were played with *their faces downwards*, when Alexis was again *mistaken in the trump*. In the third hand he was mistaken in *the number of cards wanted*, and he stated he had played a *red card* when he had played a *black one*. He now threw up his hand, on the supposition that his opponent had the best cards, when, in fact, he himself had the means of winning the game, having the odd trick in his own hand."

Giving my own general impression of the results of the card-playing and card-seeing, I should say that there was very partial success, and a vast number of failures. The somnambulist sometimes played tolerably well; sometimes he named the number of cards wanted accurately; sometimes he was right as to trumps; but in all these respects he was much oftener wrong than right. In giving the names of cards placed behind the skreen, he over and over again not only mistook clubs for spades, and hearts for diamonds, but he mistook the cards of different colours, and even the court and plain cards of different colours, one for another. He sometimes fancied his opponent had a very good hand when he had a bad one, and *vice versâ*. He sometimes followed suit, and sometimes he did not. In a word, his performance seemed decidedly better than what might be expected of a blind man, yet far short of what we had a right to expect from one who professes to see through opaque bodies. Indeed, his guesses as to the cards turned up behind the skreen were hardly more prosperous than mere random guesses might be expected to be, when we consider that there was only three to one against any one naming the right colour, and not a very vast odds (I do not know how many) against naming the right card, as all the small cards up to the sevens inclusive are thrown out of the pack.

II. Upon throwing up his cards, Alexis remained for some time in his chair, with M. M. seated by his side encouraging and condoling with him, while the company were seated or standing round the room, conversing quietly together, not at all interfering with the proceedings of the performers, and carefully keeping their opinions as to the past proceedings from the ears of MM. M. and A. After a considerable time we were informed that Alexis was prepared to exercise his faculty of *clairvoyance* by reading certain words or sentences *through* the pages of a book, or through several folds of clean paper placed on an

opened page. The latter being proposed by M. Marcillet himself, three sheets of writing paper were placed open (that is, three leaves) across the two pages of a small book opened about the middle. The book was opened at random by myself, and the paper placed on pages without their being seen by Alexis or myself. The book was a small square duodecimo in French (Dr. De Carro's *Almanach de Carlsbad)* which I feel assured was not seen previously in the house by Alexis.*

a. After poring for a considerable time over the white paper spread on the book, with his hand pressing it in different parts, and his face pretty closely approximated to it, like a short-sighted person, he fixed on a point about the centre of the right-hand page, and spoke the words "*de France,*" indicating the spot beneath which these words, he said, lay. I was particular in making him indicate *the exact spot,* and I also made him say whether or not the words (which he also wrote on the paper) were on the page *immediately* below the superimposed writing paper. He said *they were on this page;* and that both he and M. Marcillet expected to find them there appeared evident to me, from the obvious concern expressed by them when the paper was removed. The page (p. 77 of the book) immediately beneath the sheets of paper, was two-thirds *blank,* there being only seven lines of print at the top of it; and on the exact spot which Alexis fixed on, there was a small black line or mark, such as printers are accustomed to place at the end of a chapter,—which this was.

Although I regarded this as a complete failure, and it seemed at first to be so considered by MM. M. and A., they immediately shifted their ground, and said it sufficed if the words were found *anywhere* opposite to the indicated spot. They were, according to our plan, humoured in this, and search was made for the words in question. After turning over some leaves, and the exact words not being found, the performers at length seized on the word "*souffrance,*" which was found on the leaf next to the blank one, (p. 79) in the third line below the level of the spot fixed on by Alexis, and about half an inch to one side of it.

I cannot say how many pages were turned over in searching for the *clear-seen* words, but we certainly did turn over several, both at this time and on the occasion of the next experiment; and it is to be remembered, that while Alexis and myself were doing so (or rather while he was doing so, and I was trying what I could, without giving offence, to prevent him,) M. Marcillet was standing over us, and without restriction, eagerly examining the pages also. These facts, of course, utterly vitiate the succeeding experiments on the same book, as there was *a possibility,* at least, of their seeing words in other pages; and it will hardly be denied that there was an *extreme probability* that they did so. However, on the principle of letting the experimenters have their own way, under our close observation, we proceeded to further trials on the same book.

b. The paper was again placed by me on the book opened at random. It happened to be at page 98. On this occasion Alexis did not fix on words, but selected a point at the upper left-hand corner of the page, and said the page began with an *alinea* (a new paragraph, where the print was *set in* to the extent of a couple of letters). He distinctly said the page *began* with this *alinea,* and I marked the spot on and through the paper by strong pressure with my nail. On removing the sheet of paper, it was found that the page did *not* begin with an alinea, and that the spot indicated by Alexis was altogether above the commencement of the print. There was, however, an alinea or new paragraph, commencing with the *third line* of the page, and this was immediately seized on by MM. M. and A. as the thing seen and indicated. It was denied by M. Marcillet and Alexis that Alexis had said the *alinea* began the page, and the existing alinea was considered by them as sufficiently near the spot marked, to make the experiment perfectly successful! It is to be remarked that the pages of this book only contained twenty-two lines, and the paragraphs were very numerous throughout. In the very page in question, there were two other paragraphs. Of course it was perfectly easy for Alexis to observe, during the search for

* Even this, however, was *possible,* as this book was lying on a table in the back drawing-room in which Alexis remained a short time by himself, previously to being magnetised.

the words in the former experiment, this disposition of the print.

c. The paper was once more placed further on (p. 133), and after a short time Alexis announced that he saw a certain word, which he was requested to write down exactly over the spot where it was to be found. He did so, writing the word, (which, like the words "*de France*," still remains on the paper) "*Müllburn*," with a dieresis over the *u*.

On this occasion I don't think it was stated by Alexis that the word was certainly to be found on the page immediately below the paper, and consequently we allowed him to turn over the pages and look for it. After some time, neither he nor I being able to find the word, and it being regarded by me as of no real moment even if it was found (the experiment being vitiated by the previous leaf-turning), I shut the book, wishing that we should proceed to some other experiment. Seeing that there was disappointment and some dissatisfaction expressed by M. Marcillet at my conduct, I said, "I have no doubt the word is in the book;" thinking this almost certain, as the book was on the waters of Carlsbad.* Accordingly, I gave the book up into their own hands; and after a considerable search, not this word exactly, but one very like it, and one which, under ordinary circumstances, would be admitted to be the same, only misspelt—was found—viz. "*Mühlbrunn*," in page 165; that is, thirty-two pages beyond the page on which the sheets of paper were placed. The word was *near* the spot indicated as its site by M. A., but not this spot exactly: it was in the second line above and a little to the right of it. The words on this page immediately opposite the spot selected by M. A. were "*à-dire, de*," and it is to be recollected that there was a series of, at least, *sixty-four* words, superimposed on each other between the surface to which vision was directed, and this page. It is certainly curious that some one of these sixty-four words was not selected in preference.

This ended the trials with books. A period of repose succeeded, during which MM. M. and A. seemed to be mutually comforting and consoling each other, under what, even by their own showing, was by no means triumphant success. Meanwhile, I prepared what I regarded as the only real experiment, the *experimentum crucis*, viz.

III. The reading or divining of words inclosed in opaque covers, respecting which there could be no collusion and no delusion. I laid on the table five packets, informing MM. M. and A. that each contained a French word. Four of these words were in largish print, and one written in good-sized letters. Three of the envelopes consisted of several folds—from two to six—of fine writing paper, one being gummed and sealed, the others merely carefully folded so that they could not be unfolded without this being observed. No one but myself was aware of the contents of these packets, and each was marked exteriorly with a cypher corresponding with a card in my pocket-book, indicating the word contained in each. Alexis selected one of the unsealed and thinnest envelopes, and set himself, with great apparent earnestness, and without any seeming discontent or distrust, to divine its contents. It contained the word "*Vin*," written in a large bold hand, on a piece of card. As inclosed in the envelope, the card was covered by only two thicknesses of paper (a fine wove post). Profound silence was preserved in the room, and no one was close to Alexis's chair but M. Marcillet and myself. His proceedings were—to look intently at the paper for a considerable time in different aspects, pressing it and turning it about in his hands, pressing it occasionally to his breast, forehead, and lips; but still seeming to depend mainly on *his eyes* for the accomplishment of the difficult feat. After a considerable time he said the word contained in the envelope was *printed*. No assent or dissent being expressed, after another examination he said it was *written*, and that he was wrong in saying it was printed. After another long pause, he said the word consisted of *three letters*. Still silence and expectation; and after a short time he declared *he could see nothing*, and threw down the paper. Here the "*sitting*" ended, as far as Alexis was concerned, although he remained a long time in his so-called somnambulic state, M. Marcillet soothing and comforting him, and a medical gentleman

* I mention this particularly because, at a subsequent part of the evening, M. M. chose to be extremely wroth on account of this action of shutting the book before the word was found.

—a believer in Alexis—doing the same, and also attempting to excite the phrenological organs that might lead to a more cheerful, confident, and hopeful spirit; but in vain: Alexis refused to attempt any thing more that evening.

Although the same uniform calm, cautious, and courteous behaviour towards MM. Marcillet and Alexis, was still preserved by the company, M. Marcillet several times started up in great excitement, denouncing our proceedings, proclaiming the powers of his protegé, &c. The general impression produced by his conduct was, that he was desirous of provoking some retaliation, so that he might have to allege some stronger ground than he possessed for the failure of Alexis. If this was his object, it was entirely baulked by the calm behaviour of all present.

The conclusions drawn from the results of the previous exhibition (see last week's GAZETTE, p. 533) seem equally deducible from those now detailed. Alexis utterly failed, now as then, to shew, unequivocally, that power which has been called *clair-voyance.* In several cases, both on the present and former occasions, his guesses (if such they were), even when not correct, came curiously near the truth,—as, for instance, when he named the exact number of letters in the word in the envelope. The failures and blunders, however, were so egregious, and so unaccountable, on the hypothesis of the existence of a *through-seeing* faculty, that they must stagger the most credulous when fairly examined. Still, as was observed on the former occasion, the results being only *negative,* prove nothing more than that nothing was proved. It only remains for the mesmerists to adduce one or two *positive* unequivocal proofs, to put aside all our negative ones. Such proof, however, is, I believe, yet to be exhibited; and until it is exhibited unequivocally—that is, under similar guards and precautions as the failures now recorded took place—I, for one, must still remain a doubter at the very least.

Many important remarks on the strange conduct of the mesmerisers, as professors of what ought to be a matter of science, are suggested by the preceding narratives, and by the proceedings generally. I will here only briefly refer to one point—their *inconsistency* with one another, and with themselves at different times. At the first exhibition, it was declared essential to the reading of the word in the box, that the person giving the box should *know* the word. At the second this was said by M. Marcillet to be unnecessary. And, indeed, the very practice of Alexis himself, at the first exhibition, proved that he considered this knowledge on the part of the propounder to be unnecessary; the *reading of words in the book* through a number of pages being, in fact, the very same thing as reading them through an envelope. The alleged necessity, however, of having the word known by the propounder, obviously supplied one additional means of knowing it through channels common to all; while the manœuvre of reading the book furnished the most facile and ready help to successful imposition. Again, it is maintained by some professors that the somnambulist while wide awake, as far as hearing is concerned, to the mesmeriser, is totally deaf and blind to impressions coming from others—unless *de-mesmerised in any particular sense* for the nonce. There was nothing of this sort in Alexis; he did not hesitate to confer with and understand every body who chose to address him *in relation* or *out of relation,* believer or infidel.

P.S. It has been thought necessary, on this and the former occasion, to be very minute and circumstantial in detailing the experiments, as it is only in this manner that a just judgment can be formed by any reader of the positive value of such experiments. Almost all the published records of mesmeric wonders, and all those I ever heard narrated, are utterly valueless, from being defective in exact and minute details. If the proceedings of Alexis, and a few more of the so-called CLEAR-SEERS, were followed up for a certain time, in the close manner adopted on these two occasions, we should speedily come to positive conclusions respecting the truth or falsehood of these most wonderful wonders.

July 22, 1844.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue a allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Elements of Natural Philosophy; being an Experimental Introduction to the Study of the Physical Sciences. By GOLDING BIRD, M.D., &c., &c. The 2d Edition, revised and enlarged, pp. xlvi, and 479. Churchill, London.

THIS excellent elementary work, originally designed as a text-book for the students attending the annual course of Lectures on Natural and Experimental Philosophy delivered at Guy's Hospital, has already reached a *bonâ fide* second edition; and thereby justified the praise with which we hailed it on its first tappearance. The study of the simple and unchanging laws by which the vast material universe is governed, has always appeared to us the very best discipline which the understanding can receive under any circumstances; in connection with an insight into chemistry, we regard it above all as the most suitable preparation for entering upon the study of the less exact sciences of life and organization. The additions to the present edition of Dr. Bird's Elements, consist of three new chapters, embracing the subjects of thermotics, and the chemical action of light. The chapter on electronomical decomposition, and part of those on polarized light, have also been rewritten. The whole work has been carefully revised, and about eighty new woodcuts are added for the purpose of better illustration.

We again recommend this neat and well-digested volume to the medical student in particular; and the connection which exists between the physical sciences, and the ordinary business and gratifications of life, point to it as an admirable source, from which the youth of both sexes, who are receiving the rudiments of a liberal and useful education, might be made to suck the first principles of much knowledge that would afterwards turn to infinite profit in their intercourse with the world. "Geography, and the use of the globes," are very well, but they are not all; they are not even the sum of what it is most important to be aware of in the business of life. We conceive that next, to morals, physics form the proper subject of education. We should like to know this book of Dr. Bird associated in every boy's school throughout the kingdom with Hutton's Arithmetic, and the English Reader, and in every girl's school with the Abbé Gaultier, and R. Mangnall.

MEDICAL GAZETTE.

Friday, July 26, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

MEDICAL PROFESSION BILL.

ON Friday evening last Mr. Howard put a query to the Hon. the Home Secretary touching this bill, which the Hon. Baronet said he would shortly lay on the table, though he did not wish it to go further, this session, than a second reading.

THE APPROACHING ELECTION OF COUNCILLORS AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ON Wednesday next the FIRST election of Councillors under the New Charter will take place. This is so important an event in itself, as a recognition of the elective principle beyond the walls of the College, that although it has peculiar or personal reference to a small section of our readers only, we believe the majority of them will still watch the proceedings with interest.

The sections of the Charter which bear upon the election of Councillors are the 12th, 13th, and 14th, in which it is provided that, "upon the first Thursday in July next (1844), and at the same period in every succeeding year, or within one month thereafter, three Fellows are to be chosen, to be additional members of the Council.

"In each year in which there shall

be no vacancy, or less than three, among the life members, three of the elective members, or such less number as with the vacancies among life members shall make the number three, shall go out of office, and when there are more than three vacancies among life members, none of the elective members shall go out of office, and three Fellows only shall then be chosen to fill up three of the life vacancies, and the remaining vacancies to be treated as life vacancies for the following year or years, as the case may require."

"When the number of elective members shall be completeed to twenty-four, three of the council shall go out of office annually."

"In all cases Fellows going out of office shall be eligible for re-election."

"The elective members of the Council, who shall from time to time go out of office in the manner hereinbefore mentioned and directed, shall be those who shall have been longest on the council, without re-election; and in the case of Fellows elected upon the council in the same year, those shall first go out of office whose names stand lowest (among those elected in the same year) on the book or register of the Fellows of the College."

"Whenever any vacancy or vacancies shall take place among the Elective Members in any other way than by their going out of office by rotation as aforsaid, such vacancy or vacancies shall be filled up by the election (upon some early and convenient day to be fixed by the Council for that purpose) of a substitute Member or Members in the room of the person or persons whose place or places shall have so become vacant; and every person, so elected to fill np any such vacancy, shall hold such office until the time when the person in whose room he shall be chosen would have been liable to go out of office, and he shall then go out of office accordingly, but shall notwithstanding be eligible for nomination and immediate re-election, and, continuing eligible in other respects, his name shall be announced to the Meeting accordingly in the order and manner hereinafter directed.

The mode of election is provided for by the 15th clause, in which it is stated, "That the members of the council of the college shall hereafter be elected by the Fellows of the said college, including the members of the council as such; and such Fellows, whether members of the council or not, shall be allowed to vote in person only, and not by proxy; and that any number of Fellows (not being less than fifteen present) at a meeting convened for the purpose of electing a member or members of council, shall be competent to proceed to such election."

The provisions above extracted from the New Charter arereferred to by the 5th section of the bye-laws of the College, which bears upon the election of members of Council, and where we find it provided that "Notice of the place and time appointed for every meeting of the Fellows, for the election of members or a member of the Council, shall be given to the Fellows by advertisement in the London Gazette, and in two London daily newspapers, at least fourteen, and not more than twenty-one days, before the day of election;" and "That at every such meeting, the Chairman having declared the business of the day, the Secretary of the College, or person acting for him, shall proceed to announce to the meeting the names of the Fellows, as directed by the Charter; and that in order to entitle any Fellow to be balloted for as a Member of the Council, he shall, upon his name being so announced to the meeting, be nominated in writing by three Fellows, such nomination to be delivered in to the Chairman by such nominating Fellows, or one of them,

and to contain a certificate in writing, signed by such three Fellows, testifying on their personal knowledge that the person so nominated does not practise, and has not at any time, during the five preceding years, practised midwifery or pharmacy, and that he then resides, and *bonâ fide* practises his profession of a surgeon, within five miles of the General Post Office in St. Martin's-le-Grand, and that he is a fit and proper person to be a Member of the Council of the Royal College of Surgeons of England."

The old system of election into the Council of the Royal College of Surgeons had certainly become very unpopular: it was unusual and un-English, and required amendment;—to have persisted in it would apparently have brought the very existence of the Royal College of Surgeons into jeopardy. Whether the system now to be tried will satisfy the great body of the members of the College or not, has yet to be seen; we sincerely trust that it may, and that we shall all henceforward be left at liberty to give our undivided energies to the advancement of the art and science of medicine, and not go on expending ourselves, as so many of us have done, in labouring the barren waste which is comprised within what is merely political in our profession. It yields nothing but crops of heartburning and excitement, which seem to us most foreign from the heart's-ease and peace of mind which we have a right to expect from our efforts as practitioners of the healing art.

But this we will say of the old system of the College of Surgeons, now it is defunct, that probably no radically vicious system of election was ever followed with so little of injustice done. In looking back upon the College of Surgeons for more than twenty years during which we have known it, we cannot see, with almost a solitary exception, that any man has been excluded from its Council who would have shed unequivocal lustre upon his seat there. Even with the exception or two which we have in our eye, we believe it very possible that, did we know all, we should say the exclusions were well grounded. If injustice have in any case been done, however, there is now, by the provisions of the New Charter, an opportunity of repairing it; and we own that we feel the greatest confidence in the good sense and the good feeling of the large body of Fellows—men of the most liberal education in the profession, and many of them in its foremost ranks—who are now about to exercise their privilege for the first time. We cannot doubt but they will do all that is right and proper to heal differences, and to secure unanimity of action, always with the grand end in view of extending the dominion and usefulness, and exalting the character, of that branch of the profession to which they have dedicated themselves.

The Fellowship, according to prospective arrangements, so far as we understand them, appears only to be open to those whose means and opportunities enable them to qualify themselves in a certain prescribed manner: we should like to see access to the honour given upon other grounds.

It is not every man whose circumstances permit him to do all that is required in the shape of preliminary education, and the number of years to be spent in the state of pupillage to the profession; yet are there men born with a natural genius for surgery; who, pale-faced on the weaver's stool (Dr. John Thomson), and besmudged in the farrier's shop (M. Velpeau), feel the call, and, amidst difficulties of all kinds, against every odds, compel their way to distinction, and make mankind their debtors in the God-like art of healing! Such men,

in the middle of the 19th century, ought not to be excluded from the Fellowship of the Royal College of Surgeons of England. As at the College of Physicians, he who labours long and earnestly, who does that for himself, by observation and the use of books, which others effect through teachers and oral instruction, ought to be eligible into the highest rank. We but throw out this hint for the consideration of the Council and Fellows of the Royal College of Surgeons, and because we do not observe, among the bye-laws of the College, any provision for the reception of Fellows under such circumstances as have been indicated above. If it be an object with such men as we have alluded to, to achieve the highest place, it ought to be no less an object with the medical corporations to have them among their leaders.

MR. GUTHRIE AND HIS COLLEAGUES

IN THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS.

On Monday, the 22d inst. if we recollect rightly, a Petition was presented to the House of Commons, from G. J. Guthrie, praying to be heard by Counsel at the bar of the House, against the Charter lately granted to the Royal College of Surgeons of England.

Surely the course thus taken by Mr. Guthrie is rather marked by zeal than either by wont and usage or good taste. We had always held a member of a council or board to be bound by the decision of the majority. If he dissents from this decision, and refuses to be a party to its consequences, the usual course pursued is retirement. He then proclaims the cause of his secession, and so gives all parties interested the cue as to what is going on, and is farther at liberty to give his best assistance in setting matters to rights, according to his view of what constitutes right. We hold Mr. Guthrie's hands tied both in courtesy and honour, so long as he retains his position at the Council table of the College of Surgeons. His oath on taking his seat binds him to reserve; universal custom bids him bow to the decision of the majority of the body of which he is a member.

MARYLEBONE AND PADDINGTON HOSPITAL.

There is now the certainty that this projected institution will speedily be founded on a scale commensurate with the amount of deficiency in hospital accommodation conspicuous in the north-western quarter of the metropolis. At the beginning of the present century the parish of Marylebone did not reckon more than 20,000 inhabitants; that of Paddington no more than about 2,000. At the present time Marylebone counts 150,000, Paddington upwards of 30,000 souls, and both are still rapidly increasing. Twenty years ago the Edgeware road fairly bounded London to the North and West; we have but just seen a city of palaces rise up beyond it. Yet all this extension of building, this increase of population, had gone on without any adequate measures having been taken to meet the exigencies of the poor when prostrated by disease, and when overtaken by accident, of the description of that which the humanity of mankind in all civilized societies of modern times has prompted them to provide: The north-western division of London has hitherto been without any hospital for the reception of the sick and maimed among its poorer inhabitants. The consequence has been, that it has still had to go begging to a distance for the hospital accommodation it required when serious accident overtook any of its labourers or mechanics. This slur upon the charity and humanity of the new district of the metropolis, it seems will now be

speedily remedied. At a public meeting, held last week in the theatre of the Western Literary and Scientific Institution, Edwards Street, Portman Square, Earl Manners in the chair, it was announced that no more than about £1200 were wanting to make up the sum of £15,000, which the managing committee of the proposed Marylebone and Paddington Hospital had pledged themselves to collect before they proceeded to make any arrangements for building. A site for the hospital has been presented by the Grand Junction Waterworks Company, at the instance of the Bishop of London, Mr. Thistlethwayte, and the trustees of the Paddington estate,—in short, the prospect, which for a long time was gloomy enough, has gradually cleared up; commenced amidst difficulties, and discouragement, and opposition, difficulty, discouragement, and opposition, have all faded away before the perseverance of the provisional committee; many who were lukewarm friends at first are now zealous advocates; and it seems certain that, when the walls of the building are seen emerging from the ground, there will be half as much money again as was originally looked upon as a sum impossible to be collected.

Even since the last great public hospital was built, great progress has been made in the knowledge and practical application of the best principles of ventilating and warming buildings: these, of course, will be made available in reference to the new hospital and we cannot doubt with effects on the results of great operations, and the treatment of disease in general, the beneficial magnitude of which are yet unimagined. By spending a large sum of money in improving its sewers, the Governors of the London Hospital reduced the mortality of that great establishment by two per cent. annually—instead of nine deaths, there have been but seven per cent. since the improvements took place. Important as draining certainly is, it is still very much less important than efficient ventilation and due temperature. We do not despair of seeing the mortality in the new hospital as low as five or six per cent.

The acting committee of the new hospital are reported as of one mind in regard to the ends and objects of such an institution: it should be found, not only a means of benefit to the individual by relieving him under the pressure of sickness, but a means of advantage to society as a school for medical practitioners. It may be maintained, indeed, that hospitals are much less useful to individuals than to the public, to the world at large. Our great hospitals are not merely the schools from which we within this sea-girt island, this little spot of earth, are supplied with the men in whose hands are the lives and well-being of all we hold dearest; they are also the schools whence the West Indies, the vast peninsula of Hindostan, the Cape, and the fifth division of the globe—New Holland, are furnished with those best heralds of civilization and improvement, intelligent medical practitioners.

This consideration we trust will influence the committee in drawing up the rules and regulations for the government of the new hospital. Whilst every precaution is taken that will insure its being made at once an efficient school for the education of medical men, and a means for the relief of human suffering, we trust that its offices will neither be made heirlooms, nor matters of course, nor life tenures, as they are so generally. The public have a title to a somewhat numerous succession of men with the experience which the connection with a large hospital so generally bestows; and as in the Edinburgh Infirmary, the Glasgow Infirmary, and some we believe among the provincial hospitals of England, the

offices of physician and surgeon ought to be tenable for a certain number of years only. This would probably be the best mode of securing to the greatest number the greatest possible amount of good derivable from such an institution; a consideration of no trifling importance. We shall probably find opportunity of reverting to this interesting subject again.

MESMERISM EXPOSED.

London has lost the *advantage* for the present of the exhibitions of Monsieur Alexis, and his master, M. Marcillet, the author, we presume, and the *entrepreneur*, of the venture across the channel—they are both gone; set off for Paris yesterday! Dr. Forbes has the honour, upon this occasion, of having stripped off the flimsy veil of imposition under cover of which these mountebanks attempted to deceive the public. There never was exhibition so pitiful, never exposure so luminous, never defeat so complete, as that to which the notes of a second exhibition, published in this day's Gazette, refer. Press of matter compels us merely to refer to these capital notes meantime, which our readers will find in a preceding page. If we catch ourselves in the humour next week, we shall give mesmerism "another and a last word" before finally sealing our lips, and putting a veto on our pen in regard to the silly and wicked subject for ever. At present, however, we request our readers' best attention to the following *morceau de politesse* addressed by M. Marcillet to our worthy contemporary, the editor of the British and Foreign Medical Review. We do not know what our friend has said by way of giving M. Marcillet a peg to hang his abuse upon; we presume it must have been something subsequent to the "Second Exhibition," for there the editor of the British and Foreign showed the greatest command of his temper, and only did not turn M. Marcillet out of his house for impertinence and playing the bully, in deference to the presumed scientific character, God save the mark! of the exhibition. We should only mar the letter by translating it; we beg those of our readers who do not understand French to send for a grammar and dictionary forthwith, in order that they may qualify themselves to appreciate at its full value "mesmeric politeness" and the "mesmeric style."

Monsieur Forbes,

Je regrette bien sincérement que dans votre aveuglement sur le Magnétisme, vous vous soyez porté à des excès en traitant de charlatan un homme qui n'a rien fait pour mériter cette épithete: jamais, monsieur, depuis que je fais du magnétisme, je n'avais été aussi malhonnetement abimé, et je vous avoue que vous payerez cher ce môt, d'abord par la perséverance que je mettrai lorsque je reviendrai à Londres à faire de nouveaux prosélytes; c'est ainsi, je l'espère, que je serai vengé de tant de malveillance de votre part. Vous n'avez rien considéré, en tout ce qui me touche, ni ma position de negociant à Paris, où je suis établi depuis plus de 19 ans, ni les antecedents honorables de ma vie privée; vous n'avez fait aucune recherche pas plus sur le magnétisme que sur moi-même; vous avez été bien coupable, monsieur; vous n'avez même pas compris la sympathie dans le magnétisme; et vous êtes médecin!

Samedi prochain, dans le Medical Times, je serai dejà vengé un peu de vos turpitudes; et les experiences que je fais journellement prouveront à toute l'Angleterre le cas qu'elle doit faire sur vos observations scientifiques; les cinquante temoins presens à la séance de la rue Mortimer certifieront en besoin, que votre conduite a été perfide et malveillante; et prenez bien note, que j'emploierai tout ma pouvoir si je reviens à Londres, comme je l'espère, pour convaincre le plus de médecins possibles, afin que vous restiez aneanti, reduit au silence, ou si vous l'aimiez mieux, *prèchant dans le desert*, c'est la triste consolation que j'ai laissée à quelques Docteurs Travaux qui comme vous a condamné sans comprendre.

Pour que vous compreniez bien aussi que le mot de charlatan ne peut m'être appliquée, c'est que vous saurez que mon sujet et moi sommes plus que fatigués du travail magnétique, c'est à dire de l'enervement que l'on éprouve en magnetisant, et certes un charlatant ne s'énerve pas. Vous saurez que je prefère donc rentrer à Paris que de rester en ce

moment à Londres, où je refuse plus de cinquante séances de magnetisme, assez productives. Un charlatan n'aurait rien refusé. Puisse la leçon que je vous promets vous rendre un jour moins insolent, c'est le vœu que je fais pour votre conversion.

J'ai l'honneur de vous saluer,

MARCILLET.

Londres, ce 23 Juillet, 1844.

PRESENT TO MR. LANE.

LAST week the friends and former pupils of Mr. Lane presented him, through the hands of Dr. Wilson, of St. George's Hospital, with his portrait, in testimony of their respect for his private character, and of their grateful sense of his merits as a teacher.

He who has spent a dozen years and more of the best period of his life in teaching anatomy, the foundation of all medical science, deserves consideration not only at the hands of his friends, but of the public at large; and Mr. Lane's circle have done as well in making an opportunity to express the sense they entertain of his deserts in the laborious and health-destroying duty which he has so long and so ably performed, as they have shown good taste in the means and manner of proclaiming their esteem and approbation. A portrait is a thing that is somewhat costly, but it is generally without intrinsic worth; it is therefore one of the *purest* means by which a public man's friends can tell him how much they love and honour him; it is also the thing which he can accept with highest propriety, with the least of suspicion that he or his other self in some peculiarly intimate and interested friend, had aught to do in suggesting or effecting the present.

Next to the secret consciousness of desert, is the public acknowledgment by contemporaries of our well-doing, and we therefore congratulate Mr. Lane on the very appropriate tribute that has just been paid to his character and accomplishments.

LETTERS

FROM DR. EVORY KENNEDY, DR. MARSHALL HALL, DR. JOHN DAVY, AND DR. KNOX,

ON THE

NERVES OF THE UTERUS.

[THERE have probably been more false facts than false theories in medicine. It might almost be said that in proportion to the difficulty of demonstrating a stated fact was the facility with which it was admitted, and in proportion to the faciliy of demonstration was the difficulty of obtaining acknowledgment. The main business of the world of physiological science up to a very late period has actually been to correct errors in matter of fact committed by predecessors in the path of observation. For our own part, we believe that no better or more complete demonstration of any fact in anatomy was ever made than that of Dr. Robert Lee in regard to the nerves of the uterus. Still our friend complains that his demonstrations are not even generally admitted; and he has procured the letters of several gentlemen whom he thinks the world acknowledge as competent judges on an anatomical question. Conceiving that it is really matter of great moment to come to a conclusion on the subject of the nerves of the uterus, we give insertion to these letters at Dr. Lee's request.—ED. GAZ.]

From EVORY KENNEDY, M.D., *late Master of the Dublin Lying-in Hospital.*

My dear sir,—I have a perfect recollection of the gratification I experienced at examining along with you your preparations of the nerves of the uterus. Most schoolmen admit the simplest of all sensible proofs to be *demonstration;* and where, as in your case, the fact at issue is capable of being tested by such proof, I am at a loss to know how a question can arise on the matter. For myself I can only say that I was as satisfied that what I saw was nervous and ganglionic structure, as I am of the existence of nervous structure in any other organ of the human body with which I am familiar.

Believe me,

Yours very faithfully,

EVORY KENNEDY.

Merrion Square, Dublin,
January 17th, 1844.

To DR. LEE.

From MARSHALL HALL, M.D., F.R.S.

I have on several occasions most carefully examined the anatomical preparations of the uterus by Dr. Robert Lee, and I have no hesitation in saying that in my opinion they display a system of ganglia, nervous loops,

and nerves belonging to the uterine system, of great extent and importance.

MARSHALL HALL, M.D.

14, Manchester Square,
February 1844.

To DR. R. LEE.

From JOHN DAVY, M.D., F.R.S.

The Oaks, Ambleside,
March 25th, 1844.

My dear sir,—Now that I am at home, and have leisure, let me thank you for the gratification I had, when in town, in seeing your preparations displaying the nerves of the uterus in its unimpregnated and pregnant state. I never witnessed any anatomical demonstration more satisfactory; indeed I cannot but consider your dissection of these nerves as a *perfect demonstration*. Dr. Graves, I perceive, in his System of Clinical Medicine, p. 474, says, "Tiedemann has proved beyond contradiction, that the nervous matter of the womb is augmented to a very remarkable degree during the impregnated state, and that minute nervous filaments, scarcely discoverable with the aid of a microscope, enlarge into bands visible to the naked eye." He does not refer to your observations, which, I take for granted, were anterior to the German Professor's, and consequently he has not done justice to you.

I remain, my dear sir,
With much esteem, faithfully yours,
J. DAVY.

From ROBERT KNOX, M.D., F.R.S.E.,
Lecturer on Anatomy.

Edinburgh, Newington,
29th June, 1844.

Dear sir,—Since my return to Scotland, I have turned over in my mind the opinion I offered you in Saville Row, whilst examining the very beautiful preparations you shewed me of the "nerves of the unimpregnated and of the gravid uterus;" and the opinion amounted to this: that what you shewed me as *nerves*, *ganglions*, and *nervous filaments* of communication, are really such, and can be nothing else: that the increase in size or bulk to which so much importance has been attached has been upon the whole somewhat exaggerated by those who have adopted a different view from that I now propose: that the preparations you shewed me are without exception the most beautiful I have ever seen of any part of the nervous system: that viewed simply as dissections of a structure difficult to unravel, they merit the highest praise; but taken in connection with the physiology of the organs, they place the dissector in the foremost place of observers.

Believe me to be, very faithfully yours,
ROBERT KNOX.

To DR. ROBERT LEE.

BOOKS RECEIVED.

Lectures on Electricity, comprising Galvanism, Magnetism, Electro-Magnetism, Magneto- and Thermo-Electricity. By Henry M. Noad, Author of "Lectures on Chemistry," &c.

Religio Medici. Its sequel, Christian Morals. By Sir Thomas Browne, Kt. M.D.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Gentlemen admitted Members on Friday, July 19.—W. H. Snape.—W. Browne.—J. S. Green.—J. Lowry.—H. S. Palmer.—E. W. Woodcock.—F. Berrington.—E. B. Bowman.—P. Pemell.—F. J. Morgan.—J. Postgate.—C. M. Aldridge.

APOTHECARIES' HALL.

Gentlemen who have obtained Certificates, July 18.—T. M. Leak, Follifoot, Yorkshire.—C. H. Taylor, Bradford, Yorkshire.—B. Cawthorne, Wakefield.—T. Ballard, Connaught Terrace.—C. M. Smith, Kempsey, Worcestershire.—T. Peat, Versailles.—W. C. Hunt, Torrington, Devon.

MORTALITY OF THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, July 13.

Dropsy, Cancer, Diseases of Uncertain Seat	78
Diseases of the Brain, Nerves, and Senses	138
Diseases of Lungs and Organs of Respiration	221
Diseases of the Heart and Blood-vessels	24
Diseases of Stomach, Organs of Digestion, &c.	74
Diseases of the Kidneys, &c.	4
Childbed	4
Paramenia	0
Ovarian Dropsy	0
Disease of Uterus, &c.	1
Arthritis	0
Rheumatism	4
Diseases of Joints, &c.	6
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.	1
Old Age or Natural Decay	46
Deaths by Violence, Privation, &c.	11
Small Pox	43
Measles	19
Scarlatina	69
Hooping Cough	12
Croup	7
Thrush	8
Diarrhœa	20
Dysentery	1
Cholera	0
Influenza	0
Ague	1
Remittent Fever	0
Typhus	31
Erysipelas	7
Syphilis	1
Hydrophobia	0
Causes not specified	0
Deaths from all Causes	831

WILSON & OGILVY, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, AUGUST 2, 1844.

REPORTS,

By H. Fearnside, M.B.,

OF

CASES TREATED IN UNIVERSITY COLLEGE HOSPITAL.

With Clinical Remarks by

Drs. Williams, Taylor, and Thomson.

Acute articular rheumatism, complicated with endocarditis—Relapse and return of the rheumatism, accompanied with bronchitis — Treatment antiphlogistic, combined with the exhibition of colchicum.

Frederick Webber, æt. 16, admitted into University College Hospital, under Dr. Williams, May 13th. A youth of florid complexion, and moderately stout conformation; he is a native of, and has always resided in London; his food has been wholesome and in sufficient quantity; his occupation is light but sedentary, being that of "trimming" the articles in a papier-machée manufactory. His parents are living, and although not healthy, yet neither they, nor any of his brothers or sisters, have at any time suffered from rheumatism.

His health has generally been good; he has no recollection of having suffered from any serious disease, except about three years ago, when he had an attack of subacute rheumatism, occasioned by his imprudently bathing when hot. The knees and ankles were the parts chiefly affected; he was at that time about a month under treatment in University College Hospital; he has no remembrance of having had any palpitation, or other symptom referrible to the heart; and no mention is made in the report then taken of his case, of the existence of any disease of that organ. He has recently had an attack of syphilis, for which he has taken mercury in rather considerable quantity.

Present attack.—On Monday last (May 8th), owing to the absence of one of the other servants of the establishment where he is occupied, he was obliged to walk about, carrying out parcels, &c. for the whole day, which was very rainy; he was consequently much fatigued, and his clothes were wet. On the following morning he was unable to rise, his limbs feeling stiff and sore, and he had much headache, thirst, and heat of skin. In the afternoon he experienced severe pain in the right elbow, which became much swollen. On the following day his right ankle was attacked; he perspired profusely, and felt worse in every respect. On Thursday both knees became swollen and painful, and the febrile symptoms continued. No measures having been adopted for his relief, he remained in this state until his admission (Saturday).

Present state.—The skin is very hot, although he is perspiring profusely; he complains of excessive pain in the right elbow, both knees, and the right ankle. The elbow is considerably swollen, and somewhat red; the capsules of both knee-joints are distended with fluid; there is also some swelling in the bursæ around the joints; there is some redness of the integuments, but not much swelling of the ankle. The left elbow is slightly affected. The pains are neither increased nor relieved by warmth.

The countenance is heavy and anxious; the face is flushed: he has no headache, but complains of inability to sleep on account of the severity of the pains. He has no pain about the chest, or dyspnœa; has a slight cough; respirations 22 per minute.

The impulse of the heart is too strong and extended; there is increased dulness on percussion over the cardiac region, extending from the lower border of the fourth rib to the margin of the chest inferiorly, and transversely from a particular line descending from the left mamilla on the one hand, to the left border of the sternum on the other. A slight murmur is heard with the first sound of the heart over the situation of

the apex of the organ, but it is most distinctly heard midway between the left mamilla and the margin of the sternum; it is heard also at the top of the sternum, and over the arteries of the neck; it is audible with remarkable distinctness over the left subclavian artery. Pulse 106, and slightly jerking. A sort of pulsatory or vibratory movement is perceptible with each beat of the heart, between the third and fourth, and still more distinctly between the fourth and fifth ribs on the left side.

The tongue is covered on its centre with a yellowish brown fur; the gums are turgid, and have a blue tinge around the teeth; the breath has a mercurial fœtor. He has some soreness of throat, and the uvula, tonsils, and pharynx, are more than usually red; he is very thirsty; has no appetite; bowels rather confined; no enlargement of the liver; urine strongly acid, sp. gr. 1132, and contains a large excess of urea, being almost converted into a solid mass on the addition of an equal volume of nitric acid.

Treatment.—Venesection was directed to be performed to the extent of 14 oz.; calomel and opium to be given at bed-time for two nights, and an aperient (senna) in the morning; and an alkaline draught containing colchicum wine (ʒss.) to be taken three times daily. The patient was also placed upon low diet.

May 14th.—He expresses himself as feeling better upon the whole. The pain in the right knee has abated considerably, but it has increased in the left one; and both elbows are now swollen and painful. Pulse 88, and soft. The blood abstracted is cupped, and presents a thick buffy coat.

15th.—The capsule of the left knee-joint is much distended with fluid, and he experiences severe pain in the part; the swelling of the right knee has subsided. Both elbows and wrists are considerably swollen and painful, especially those upon the right side; but the inflammation does not appear to extend beyond the immediate vicinity of the joints; he perspires less, and the face is less flushed. He complains of tenderness upon pressure over the cardiac region; the morbid sound and dulness on percussion remain as before; pulse 96, soft and small; respirations 24 per minute. The tongue is dry and furred; no sickness; bowels open; urine acid, sp. gr. 1029, and contains an excess both of urea and lithic acid.

16th.—The swelling of the left knee is still more considerable; the elbows continue swollen and painful; the small articulations of both hands are now affected. The skin is warm and moist; pulse 84, stronger, and rather jerking. (The bleeding to be repeated.)

17th.—He is able to move his knees, but there is still much swelling about the left one; the elbows and hands are less swollen, but he complains of pain in the shoulders. Skin cooler; no sickness; bowels open. The cardiac dulness on percussion appears less extensive; pulse 84, and softer; respirations 24 per minute. The blood abstracted yesterday is much buffed and cupped.

18th.—The rheumatic symptoms have subsided in a great degree, there being merely slight swelling of the left knee-joint and left metacarpo-phalangeal articulations, and some pain in the left shoulder. The surface is warm and moist; the cardiac dulness on percussion appears to be considerably less extensive than a few days ago; in addition to the morbid sound with the systole of the heart, there is a clangorous murmur with the second sound, and heard over the base of the organ. Pulse 72, soft and small.

During the following week the patient's improvement was very marked; he remained free from the rheumatism; the tongue lost its fur, the appetite improved, and he slept better; the urine no longer contained any excess of urea or lithic acid; its specific gravity was usually about 1020, and instead of being strongly acid, it was frequently alkaline in reaction, as he continued to take the alkaline draught, the colchicum being omitted, and its place supplied by the iodide of potassium. Having ventured out of doors on May 25th, he appears to have then taken cold, as on the following day he began to suffer from soreness of throat, and cough, and had a slight return of the rheumatism in the left arm. The colchicum was directed to be resumed, and a dose of calomel and opium, followed by a brisk purgative, was prescribed.

29th.—The relapse has become decided; he has much pain in both knee-joints, the capsules of which are considerably distended with fluid; the right elbow is also somewhat swollen. He has a frequent short cough, and complains of pain in the left side of the chest; he has some dysphagia, and the tonsils are enlarged; there is no increase in the cardiac affection; pulse 96, moderately firm; respirations 26 per minute. Over the lower and posterior part of the left side of the chest a submucous rhonchus is heard.

30th.—The right shoulder has become swollen and painful, and the wrist and small joints of the right hand are slightly affected. He has some headache and thirst; skin warm; the cough continues troublesome, but is unattended by expectoration; pulse 96. (Four grains of iodide of potassium to be added to the draught.)

June 1st.—The rheumatism has left the right arm, and established itself in the large joints of the left one; the knees continue swollen and painful; he perspires profusely,

is thirsty, and sleeps but little; pulse 100, moderately firm. A liquid rhonchus is still heard over the lower part of the left side of the chest; the morbid cardiac sound, and dulness on percussion, remain as before.—(Venesection to be repeated to 10 oz.)

2d.—The swelling of the knees appears to have increased rather than otherwise; the articulations of the fingers of the left hand are swollen, red, and painful; he has also much pain in the left shoulder; the urine is scanty, high-coloured, sp. gr. 1026, and acid. The cough has been more troublesome, and he has expectorated some greenish-yellow muco-purulent matter. A muco-crepitant rhonchus is heard over the lower part of the right side of the chest.

3d.—A striking improvement has occurred since yesterday; the pain and swelling of the joints are rapidly subsiding; pulse 88, and soft; urine acid, sp. gr. 1024, and contains a large excess of saline matter.

From this time the patient continued to improve uninterruptedly. On the day following the date of the last report the rheumatic symptoms had disappeared, the cough became less troublesome, and he regained his appetite and strength. The bronchitic rhonchi ceased, but the murmur accompanying the first sound of the heart remained audible as long as the patient was under observation, although less distinctly so than upon his admission. He was discharged cured on June 10th.

Remarks.—The nature of the disease in this case was clear: migratory inflammation of the joints, and of the *large* joints in particular, attended with fever, not paroxysmal, is the character of acute rheumatism alone. The disease in this instance was of the articular variety, there being inflammation of and effusion into the synovial capsules, and also the bursæ around the joints; whilst the intermediate fasciæ were but slightly if at all affected.

The attack was a severe one; the patient was predisposed to the occurrence of the disease, by having formerly been the subject of it. He had also been for some time under the influence of mercury, and was thus rendered more susceptible of injurious impressions from various agencies.

Few causes are more powerful in producing rheumatism than considerable exertion, and exposure to cold and damp combined. The former, by causing large destruction of the muscular tissues, would appear to act by affording the pabulum, which either directly, or modified in some manner by the vital chemistry, constitutes the "materies morbi" of rheumatism. The latter causes may act in several modes, but chiefly, in all probability, by occasioning a diminution or temporary suppression of the cutaneous transudation; as a result of which, an increased quantity of fluid, and also of the lactates usually eliminated by the skin, must be thrown upon other parts. The subsequent inflammation of the fibrous tissue is, no doubt, connected with this altered character of the circulating fluid.

The rheumatism in the present instance was complicated with an affection of the heart; this may have been either recent or of some duration; the increased dulness on percussion, the extended and forcible impulse, and the morbid sound, may be attributed either to recent endocarditis, or to dilated hypertrophy of the left ventricle, with some accompanying valvular disease. No mention is made of any affection of the heart in the former reports of the case, and were we to rely upon the patient's own sensations, we should conclude that the organ escaped in the former attack; but this would be an unsafe criterion, as it is well known that the heart may be seriously implicated without the patient being at all conscious of it. But, from the former attack being only subacute, from the severity of the recent one, and especially from the fact that the dulness on percussion diminished in extent, the impulse became less strong, and the murmur less distinct, before the patient left the hospital, it appears probable that the disease was recent.

The situations over which the morbid sound was most distinctly heard, viz. over the base of the heart, and along the course of the blood-vessels, pointed out the aortic valves as its seat; and its accompanying the systole of the heart indicated the existence of some obstruction to the exit of the blood. A few days after the patient's admission another murmur was heard in the same situation as the former, but during the diastole of the heart, implying regurgitation into the ventricle; the duration of the sound, however, was very short.

The pain in the joints in this case was unaffected by variation of temperature; the absence of any relation between its increase or diminution, and exposure to heat or cold, has been observed in other instances, proving that this symptom cannot be relied upon as an indication of the acuteness of the attack.

The changes which the blood and urine undergo in acute rheumatism were strikingly seen in this case: the small, firm, highly buffed and cupped crassamentum, was such as is not often seen in any disease but acute rheumatism; the urine was of high specific gravity, and loaded with urea and lithic acid.

The fever was very considerable upon the patient's admission: the pulse was 106, and the skin hot, although bathed in perspiration, and consequently subjected to the cooling process of an unusual degree of evaporation. It seems calculated to excite surprise, that the persistence of the symptoms in acute

rheumatism, notwithstanding the profuse discharge of fluid by the skin in many cases, should not have led to the natural inference of the questionable utility of sudorifics in this form of the disease.

The efficacy of the treatment was equally obvious in this as in the last case commented upon; four days after it was commenced, the patient could move his limbs without pain, and on the following day the joints were almost free both from pain and swelling, and the frequency of the pulse was reduced to 72; on the eighth and ninth day, he might have been pronounced convalescent. And a few days afterwards, from premature exposure of himself, he had a return of the rheumatism in a very severe form, and this relapse persisted for about a week, and was accompanied with signs of bronchitis in the lower part of both lungs. From the greater amount of fever present in this case, as well as from the inflammatory affection of the heart in the first instance, and that of the bronchial tubes subsequently, the treatment upon the whole was more decidedly antiphlogistic than that pursued in the case whose history was last recorded. Notwithstanding the severe recurrence of the disease and its complications, the patient was free from rheumatic or other notable symptoms in twenty-two days, and was discharged in twenty-seven days from the period of his admission, or in thirty-one days from the period of the attack, which is considerably within the limits assigned by most writers for the average duration of the complaint.

A SHORT ACCOUNT
OF A
ONE-EYED HUMAN MONSTER.

By D. J. T. Francis, M.B.

(For the London Medical Gazette.)

Through the kindness of Mr. Heath, Honorary Surgeon to the Union Hospital of this town, I had the opportunity, some 18 months since, of examining an unusual form of monstrosity. In submitting these short notes for publication, I cannot refrain from expressing regret that the subject was irretrievably destroyed, by a person ignorant of its nature, long before the dissection had been completed. The observations, however, were made at the moment, and, short and disjointed as they are, it has been suggested to me that they are not altogether without interest. At any rate it is hoped they may do something more than merely excite regret for the small profit made of the occasion.

The monster in question, which was a female, had a well-formed body and limbs, of the usual size at about the eighth month of utero-gestation. The head was nearly half as large again as natural, reposing upon the spine in almost a straight line, having but a trifling angle forwards; and, except at its posterior part, deviated in most respects from the normal form. In the usual situation of the frontal bone, arose a large, prominent, uniformly-rounded tumor, evidently the result of a deficiency in that part of the bony parietes, and rising forwards was palpably filled with fluid. This tumor was partly covered with hair.

Immediately below it was a single eye, perfectly central, sunk in no depression, but on an uniform level with the surrounding parts. Besides this eye no feature of the face was present; not a trace of mouth, nose, chin, or cheeks; but, about an inch beneath it, were situated the external ears, which, owing to the abrogation of the parts just mentioned, were enabled to approximate within an inch and a half of each other. Their long axes moreover had assumed nearly a transverse direction, their lower extremities being turned forwards; in which direction the meatuses also pointed; so that the only space which could have represented the face, even if any features had existed, was scarcely an inch and a half square.

The integuments of the head being reflected, the occipito-frontalis muscle and tendon were brought into view, forming, with the dura mater, the bulging walls of the tumor. On continuing the incision into the cavity of the skull, about two or three pints of clear amber-coloured fluid were evacuated, and, in the centre of the floor of the posterior and middle fossæ, was disclosed a flattened, tongue-shaped process of nervous matter, protruding forwards from the spinal canal, and representing all that existed of the brain. It was three inches long by one and a half broad, symmetrical, azygous, without salient points, or trace of hemispheres or convolutions; its more important features, however, as of other parts of the nervous system, were reserved for a future examination, which was, unhappily, frustrated.

The occipital, parietal, and squamous

portions of the temporal bones, had their usual forms and relations to each other, and appeared, from the progress of ossification, to have been eight or nine months old. The only trace of the frontal bone consisted of a narrow, ring-like portion, about two lines in breadth, just sufficient to form the coronal suture: the true frontal and orbitary portions were altogether absent.

This deficiency in the frontal bone, and also of the sphenoid (for little else than the body of this latter bone was present), and protrusion of the cerebral capsule, constituted a kind of *spina bifida* of the first of the three cranial vertebræ.

The middle and posterior fossæ of the base of the skull were of the usual capacity, whilst the anterior was, of necessity, altogether absent. The styloid process of the temporal bone, not anchylosed with the petrous portion, gave attachment to its proper muscles.

Of the bones of the face no vestige appeared, the finger, when directed to this part from before, impinging at once upon the body of the sphenoid bone, the skin alone intervening.

The eye was imbedded, as usual, in a quantity of soft fat, but was unsupported by any trace of bony orbit. There was present, however, what might be considered a peri-orbit, a continuance of the dura mater or cerebral capsule, which invested the optic nerve, and proceeding anteriorly, supported the eye, and blended at its extremity with the skin and tarsal cartilages.

The recti muscles of the eye were all present and well developed; their origins encircled the optic nerve, and appeared to arise from the periorbital membrane before alluded to, whilst their anterior attachments were normal. The superior oblique followed the usual course, its tendon passing through a membranous trochlea situated on the right side of the globe.

Of the auditory apparatus the only parts of which any rudiments appeared were the external ear, the meatus, and Eustachian tube. The former was large, but was remarkable only for the transverse direction it had assumed. The Eustachian was a continuous tube from the external meatus to the pharynx, of the same diameter throughout, and uninterrupted by any vestige of tympanum; it pursued a direction inwards, backwards, and slightly downwards, was a little curved, and lined with a smooth, whitish, mucous membrane. Its internal termination was at the posterior and upper part of the pharynx, immediately below the spine; the aperture was round and patulous, and very far exceeded in size the corresponding part in the adult. The whole length of this breathing tube, which, it should be observed, owing to a deficiency of the petrous portion, was in contact with bone by its upper surface only, was ten lines, and the distance between the internal extremity of either tube seven lines.

There was nothing unusual about the larynx; its diameter was three lines. The epiglottis was well formed.

The pharynx was capacious and had the ordinary relations; the only openings, however, into it were of the Eustachian tubes, the larynx, and the œsophagus. About a line above the os hyoides, which presented no peculiarity, was a bundle of muscular fibres having a transverse direction, the extremities, however, being somewhat deflected, so as to bear some analogy to an orbicularis oris; it formed the upper boundary to a transverse slit, which terminated, at no great depth, in a cul de sac, and suggested a resemblance to the mouth. On removing this muscular layer, a small, but well-formed tongue, shrunk down upon the os hyoides, was disclosed.

The bronchi and other contents of the thorax were quite natural; the lungs, collapsed at the sides of the spine, had received no air. The abdomen and limbs were perfect.

The various deficiencies in the head of this monster furnish some interesting examples of unequal advance and arrest of development during the transition from the simple to the more perfect condition. But there is something else than mere permanence of an early condition; for the eye was central, and the optic nerve traversed the sella turcica in the mesial line, a position it is never known to assume in the normal state during any period of uterine life. Two suggestions occur in explanation of this central single eye; either that it was the result of an early coalescence of the two, or that one was entirely absent, or so rudimentary as to have escaped detection.

Of these, the former view is probably the more correct, for it accords with the symmetry which was observed of corresponding parts on either side of the head: moreover, in the centre of the margin of the upper tarsus, a slight indentation or notch was clearly perceptible, as if betokening a line of separation, and the two canthi bore the form of the external one in the natural eye. The only circumstance in support of the latter view was the existence of a single superior oblique muscle, which was attached to the right side. No satisfactory inference can be drawn from the presence of four only of the recti muscles; they may have been either proper to a single eye, or the external muscles of two united eyes. The subject was, unfortunately, destroyed before any dissection had been made of the internal eye.

The absence of any trace of nostril, and perhaps of true ear*, was connected, probably, with the absence of the nerves of the corresponding senses, and pointed to the fact that these diverticula from the brain exist prior to the formation of the organs in which they are destined to be lodged.

There was, in the perfect formation of the middle and posterior fossæ of the skull, and other circumstances, reason to believe, that the brain had been, at one time, more fully developed than it was found to be at the examination; and that it had, together with some of the bones, suffered subsequently from the accumulated pressure of the fluid within the skull.

The main interest, however, of the case lies in the singular modification of breathing apparatus, which, judging from the scanty literature I am enabled to consult, is unrecorded. There is no doubt that, so far as a mere passage for air to the lungs is concerned, the Eustachian tubes would have amply fulfilled this office; for their conjoined calibres were even greater than that of the trachea, and, as in the apparatus there was nothing superadded, but a simple arrest in the development of parts, considerable testimony is added to the opinion of Huschke, who views the Eustachian tube as the remains of the superior of the bronchial apertures; the necessity for the permanent existence of this latter, in the present instance, resulting from the occlusion, or rather absence, of mouth and nostrils.

It is perhaps hardly profitable to glance at the curious medico-legal question which might arise if the abstract viability of such a monster were discussed. With a good chest and lungs, and with air-passages of sufficient dimensions leading to them, it is clear that the physical conditions for the perfomance of respiration were all present. The tubes, moreover, communicated with the pharynx and stomach, and although breathing had not in reality commenced, no light can be thrown in explanation of the fact of viability, in the absence of any knowledge of the circumstances attending the birth.

Manchester, July 17th, 1844.

* The absence of the tympanum alone was demonstrated, and not of the true ear.

CASE OF VENEREAL SARCOCELE IN EITHER TESTICLE SUCCESSIVELY; ATROPHY OF LEFT, RECOVERY OF RIGHT TESTIS.

By T. M. Sunter,
Assist. Surgeon 7th Rl. Fusileers.
(Communicated by the Director-General of the Army Medical Department.)

Private Joseph Stubbs, 7th Royal Fusileers; admitted into the Depôt Hospital at Brecon, South Wales, February 16th, 1844, complaining of hoarseness, cough, and a pain in his left testis.

The patient is unmarried; of a strumous-looking habit, fair hair, blue eyes, pallid and rather sallow complexion. He was first a butcher, and then a gentleman's servant, before he entered the army; states that he was always very healthy before he enlisted. His first illness was at Portsmouth, in 1832, where he had cholera. Next in Malta, where he had a sore on the penis, which was treated and healed by local applications, and was not, he states, followed by secondary symptoms. His next illness was in Dublin, 1838, when he was, he states, four months in the General Hospital there, for a discharge from the ears, with deafness, and was sent out cured. He was admitted a second time in the same year, into the same hospital, for jaundice, and was discharged cured, after having been, as he says, five months under treatment. Character good, but drank as much as his pay allowed him to do.

On referring to a former register, I find him admitted into hospital October 6th, 1841, at Cork, where the depôt of the Fusiliers was then stationed, for a small inflamed pustule, which was observed on the foreskin after impure connection; which soon broke, and was converted into a foul, sloughing ulcer, attended with much swelling, redness, and pain. The ulcer occupied two-thirds of the prepuce; its edges were irregular, elevated, angry; its surface was foul, and covered with bloody sloughs, and discharged a thin fœtid sanious fluid, mixed with blood; the sloughing extended through the prepuce by an opening about the size of a shilling. The pain was not very severe, and the swelling rather less than might have been expected; its colour florid. Little constitutional disturbance existed. Tongue clean and moist. Pulse 90, soft.

The ulcer was touched several times with undiluted nitric acid; the man was put on spoon diet, well purged with calomel and jalap, and went through a course of pills of calomel, antimony, and opium, till the mouth became rather sore, when the ulcer healed.

The following year Stubbs came into hospital again, affected with slight gonorrhœa, and hernia humoralis of right testicle, which was much swollen, complaining also of pains in his lower extremities, especially along the shin bones. No fever. He was vomited, had leeches applied to the testis, &c., and gradually improved; but the testicle continuing large and hard, he was put on a course of blue pill, and then of iodide of potassium. By and by, the unguent. iodinii was rubbed into the testis, which was further bound about with strapping. He had also tonics for a time; subsequently he was treated for rheumatism by means of colchicum and diaphoretics. An abscess then formed in the right leg, but disappeared by absorption, and there was considerable pain and contraction of the right elbow.

In the middle of February 1843, Stubbs shewed decided indications of hectic; he had chills and flushes in the afternoon, and awoke in the morning unrefreshed, and bathed in perspiration; he also began to complain of hoarseness, cough, and at same time of a pain in left testis, which swelled, and soon attained to the size of a turkey's egg: the right testis, which had been formerly affected, was partially atrophied, and only half the size of a healthy testis, but it was sensible to pressure.

I had at this time put down the case as "rheumatic orchitis," with "subacute laryngitis;" looking on the latter as a form of the then prevalent "influenza," and copying the former from the old register, in which the affection of the right testis was so designated.

The patient was purged, placed on low diet, and the scrotal veins, which were much enlarged, were pretty freely punctured, to the great relief of the patient. Blue pill and opium were prescribed until the mouth became sore. The patient improved, but the testicle still felt hard, and was in some parts tender on pressure; anteriorly there was a distinct feeling of fluctuation.

I now changed my opinion of the nature of the case, and wrote it down "hydrosarcocele of left testicle, I think syphilitic," and therefore determined to administer mercury, in the manner recommended by Sir Benjamin Brodie, in a lecture on the use of mercury in syphilis, delivered at St. George's Hospital last February. But as the mercury I had just been giving him had taken effect rather suddenly and severely, and as he was still suffering from mercurial irritation, I judged it better, before putting him under a second course, to give him tonics, with a more generous diet.

In ten days he commenced rubbing in half a drachm, and then a drachm and a half, of the Ung. Hydrarg. fort. every day; and this was continued until the mouth became very sore; but with no effect upon the testicle. The mercury was therefore given up, and decoction of bark with iodide of potassium internally substituted. By and by, an ointment composed as follows:—

℞ Potass. Iodid. ʒj., Unguent. Hydr. fort. ʒj., Unguent. Cetacei, ʒj.

was spread on lint, and laid over the affected testicle every night; and he had full diet.

Under this plan the right testicle became of the natural size, and the general health good, so that the patient declared he felt as well as ever he did in his life. Discharged.

* Vide MEDICAL GAZETTE, vol. xxxiii. p. 665.

Examined about a month afterwards, this man was found to have continued in excellent health, and had been doing his duty. The right testicle feels partially atrophied, but it is sensible to pressure, and is only half the size of the left, which is of natural dimensions.

Remarks.—The question of most importance in the foregoing case appears to me to be the following :—

What was the nature of the disease? Was it "hernia humoralis" of the right testicle, which the man laboured under when admitted into hospital at Dover, in September 1842? Or was it a case of "hernia humoralis" with "acute rheumatism," as entered in the register, in January 1843? For my own part, after repeated perusals of the case, and judging from the effect of the treatment, the present state of the right testicle, the man's positively stating (and he bears a good character) that he never had any gonorrhœa when in hospital at Dover—the fact of the left testicle becoming attacked in a manner so similar to the right a year afterwards—both attacks having been ushered in by what are considered as well-marked symptoms of "venereal hectic;"—from all those circumstances, and from thinking over the case with as much attention as I am capable of giving, I confess I look upon it as "venereal sarcocele" attacking the right testicle at Dover, in September 1842, eleven months after the primary sore on the penis had been healed at Cork (Oct. 1841). The "tumor (abscess) over lower third of fibula of right leg," which was so decidedly benefitted by blistering, and which did not proceed to suppuration, I believe to have been a "venereal node;" and lastly, the affection of the "left testicle," for which the man was admitted into hospital by me in February 1844, was, I think, also "venereal sarcocele;" very much resembling the attack, as it is reported to have occurred, in the right testicle, with the exception that the latter was not accompanied by the effusion of any fluid into the cavity of the tunica vaginalis.

A year elapsed between the healing of the primary sore on the penis at Cork, and the attack in the right testicle at Dover; and another year intervened from the time the man was discharged from hospital for the affection of the right testicle, February 1843, to the period of his admission for that of the left, viz. Feb. 1844. But this assuredly does not militate against the idea of his complaint being secondary syphilis; as many cases might be adduced in support of the opinion that secondary syphilitic affections vary as much in the periods as the modes of their attack. The immortal Duypuytren states (if I recollect aright) in his "Leçons Orales," that one of the symptoms most to be relied upon of an affection of the testicle being "venereal," is its remaining in one testicle for six months, a year, or a year and a half, then leaving it and suddenly attacking the other*;" I would also refer particularly to a case by Dr. Moorehead of Tullamore, published in the "Dublin Medical Press" of the 4th of October, 1843, under the title of "Cachexia Syphiloidea," which strongly resembles the one I have just described, and which I think was certainly secondary syphilis.

With regard to the hoarseness and cough complained of by Stubbs on his admission into hospital at Brecon in February 1844, I look upon them to have been a form of the then prevalent "Influenza," having admitted other cases into hospital at the same time, which were affected in precisely a similar manner, and got well under similar treatment. If I were asked to which of the remedies the removal of the disease in the testis was to be ascribed, I should say that I really do not feel myself competent to answer the question. But I may add, that I have known a case of "venereal testicle" occurring in a person in whom it had returned again and again after the administration of more than one course of mercury for its cure (which it is but fair, however, to say, was not used in the most approved manner), cured by a decoction of cinchona internally, with cold shower baths, and hydriodate of potass ointment applied to the diseased gland externally.

Thomas Moore Sunter,
A.B., M.B., T.C.D., L.R.C.S.I.
Assistant Surgeon, 7th Royal Fusiliers.

Brecon, South Wales,
May 29th, 1844.

* Vide Cooper's Surgical Dictionary, art. "Testicle," 7th Edition.

CASE OF HYDATIDS OF THE LIVER AND ABDOMEN.

ANALYSIS OF THE HYDATIC FLUID.

To the Editor of the Medical Gazette.

SIR,

IF you deem the following case worthy of a place in your journal, you will oblige me by inserting it.

Your obedient servant,

J. W. GRIFFITH, M.D. F.L.S.

Senior Physician to the Finsbury Dispensary.

July 13, 1844.

Maria Worledge, æt. 42, was admitted under my care as a Dispensary patient, on the 5th of June, 1844. Her previous history, as well as I could make it out, (for it is generally very difficult to obtain anything like accurate information from these patients concerning their early history) was as follows:—When quite young she had typhus fever; otherwise, up to the time of her marriage, which took place at the age of 21, she enjoyed perfect health. Her father died of consumption; her mother is still alive, and in good health. Nothing similar to her ailment has ever appeared in any of her relatives. She miscarried about five months after marriage; since then, until the last three months, the catamenia have always appeared regularly. She never had jaundice. Her husband recollects remarking at the time of marriage a slight prominence at the epigastrium, slightly towards the right side. She afterwards noticed this herself, and about three years after marriage her feet and legs began to swell; the face remained natural; the tumor then became very hard and painful, but there was no redness. Shortly after this, having suffered extremely from dyspnœa, great pain in the abdomen without fever, and great enlargement, the most prominent point of the tumor, which was at the umbilicus, burst, and a "pail-full" of a peculiar gelatinous matter, some of which was very offensive, was discharged. A sanious matter continued to issue from this opening, and occasionally long pieces of solid matter projected through it, some of which were discharged, others remained blocking it up; the latter were frequently cut off, without producing any pain.

After this, a slight discharge continued to ooze from the aperture, and she went to the Bermudas, where she remained for eight years. Three years after this, the epigastric and right hypochondriac region again swelled, became very painful, and one point in the right hypochondrium became very red and prominent; it was opened, when blood and pus came out. At this time the umbilical aperture had healed.

When I first saw her, the face was pale and yellowish; the conjunctivæ were, however, white; the whole face slightly puffy, particularly the left eyelid (the left was the side on which she constantly lay). She had a constant hacking cough; the breathing was short and quick; the abdomen much enlarged, and its walls œdematous; there was indistinct fluctuation in the lower part: the most prominent portion, which was on the right side of the hypogastric region, felt slightly elastic. Both the apertures from which the peculiar matters had been discharged were open, and the surrounding parts of the abdomen were slightly retracted at those parts. The whole abdomen was dull on percussion, except the upper and back part, especially the right, where it was more resonant. The stools were of various colours, green, yellow, and white. The urine was tolerably copious, pale and albuminous. The feet and legs were much swollen. There was no fever, thirst, nor quickened pulse; the tongue was slightly furred. The chest was quite clear on percussion, except at the posterior and inferior parts, especially on the left side, where it was dull; the respiration was puerile all over the chest, but towards the lower and back part were various rhonchi, and quite low down behind there was a sub-crepitant rhonchus. She remained under treatment for a month, during which time purgatives, diaphoretics, iodide of potassium, elaterium, and diuretics, were had recourse to; the dropsical symptoms, however, remained the same, until 24 hours before death, when, as usual in such cases, they almost entirely disappeared; she died comatose and convulsed.

The abdomen only was examined after death. The examination of the liver was found very difficult, the whole proper substance of the right lobe having been entirely destroyed, and a thick yellowish cartilaginous mass, with occasionally a piece of bone, was all that remained; this was anterior to

the diaphragm and anterior abdominal walls. The gall-bladder was situated on the under part of this mass, and was filled with healthy bile. Imbedded in the cartilaginous mass just spoken of, was a large cyst, capable of containing from a pint to a pint and a half; this was filled with hydatids of various sizes. The left hepatic lobe was of the ordinary size, and free from hydatids; the portal venous system was filled with blood; the intra-lobular veins were empty. The spleen was softened, resembling currant-jelly, and free from hydatids. The abdomen contained a considerable quantity of fluid, and its walls were much infiltrated, so that they were very thick. Imbedded in the left side of the great omentum was found a hard mass, composed of three spherical nodules, each about one inch in diameter, firmly united; these were filled with hydatids. Another tumor, as large as an orange, was found between the peritoneum and abdominal muscles in the right side of the umbilical region; this was also filled with hydatids. The kidneys were very small and extensively granular, and throughout their substance were found simple cysts filled with fluid. At the anterior and inferior part of the peritoneum were found some small tubercles of osseous hardness, and about the size of small peas, but containing no hydatids. The blood which was examined during life contained a large quantity of urea.

The walls of the cysts containing the hydatids were of various thicknesses; those of the larger were very thin, those of the smaller very thick and white, resembling cartilage*. Those of the hydatids were perfectly transparent, soft, and gelatinous, exhibiting no trace of structure. The hydatids were perfectly free and unattached, and within each was contained a perfectly transparent liquid. It had a sp. gr. of 1·008; was slightly coagulated by heat and nitric acid; contained merely a trace of fat. 1000 parts left 15 of solid extract, consisting principally of chloride of sodium; it was very deliquescent. It left ·85 per cent. of chloride of sodium, a little carbonate and sulphate of soda, and a trace of phosphate of lime, and ·65 of albuminous extractive matter. It contained neither cholesterine nor alkaline phosphate. The gelatinous coating of the hydatids appeared to be of a peculiar nature; when dried it left a brownish residue, which dissolved by boiling in muriatic acid with a deep brown colour, but no precipitate was caused on adding an alkali. When moist, the membrane was dissolved by muriatic and nitric acids, but the solutions were not precipitated by ferrocyanide of potassium nor by tincture of galls. When boiled for some time in water, none was dissolved, for the solution was neither precipitated by tannic nor nitric acids, nor did the solution gelatinise on cooling. When boiled with solution of potash, the dried membrane was dissolved, and the solution rendered brown, but neither was sulphuretted hydrogen evolved, nor any precipitate formed on the addition of an acid.

* They were not, however, true cartilage, for they were made up of parallel fibres.

ON THE

PATHOLOGY AND TREATMENT OF OVARIAN DISEASES;

WITH CASES.

By Dr. Samuel J. Jeaffreson,
Physician to the Chelsea, Brompton, and Belgrave Dispensary, &c.

Case I.—*Ovarian tumor, partly solid, partly fluid, duration of twenty-two years. General health not much impaired—chief inconvenience from the bulk of the tumor.*

November 25, 1838.—I was consulted by Miss G., between 40 and 43 years of age, for an enlargement of the abdomen, which she suspected to be dropsical. I found the abdominal cavity occupied by an enormous tumor, which appeared uniformly solid and hard excepting at its lower portions, where there was perceptible fluctuation. The tumor, which was moveable, did not appear to have contracted any adhesions to the abdominal walls; it pushed aside the descending colon, which was much loaded with flatus. The size of the abdomen was that seen from the seventh to the eighth month of pregnancy.

The general health was but little impaired, except that she was beginning to experience considerable inconvenience from the weight and bulk of the tumor, which, by its pressure, caused derangement of the abdominal viscera, in the shape of dyspepsia, flatus, and constipa-

tion. The catamenia, previously regular, had ceased within a year of my being consulted. The tumor had been first perceived sixteen years ago; but did not appear to occupy one side of the abdomen more than the other. Its increase of bulk had been very gradual.

I prescribed with a view to relieve the dyspeptic symptoms, constipation, and flatulence; and also ordered her the liquor potassæ; and the ointment of iodide of potassium to be rubbed into the abdomen. She experienced speedy relief to her more urgent symptoms from the former part of the treatment; the latter she has continued at intervals, I believe, ever since, and she is now, six years nearly from my first interview, even better in her general health than at that period. I have not latterly had any opportunity of examining the abdomen, but she assures me that it "has not at all increased in size." This patient had, previously to my seeing her, frequently submittted to courses of medicine, with a view to relieving or curing her disease.

CASE II.—*A similar case, only larger, and of twenty-five years' duration.*

Mrs. P. is now about 50 years of age; she was married in early life, and never had any family. For many years past I have been in the habit of seeing this lady from time to time. The abdomen is at present *enormously* distended, and has been in this state for many years; and she experiences great inconvenience from the weight and bulk of the tumor, which is partly solid, partly fluid, and appears divisible into three great masses; being considerably larger on the right side. This patient is also labouring under extensive enlargement of the thyroid gland, which is also partly fluid and partly solid, and divisible into three great portions or masses.

The general health, even at the present advanced period of the disease, is not more impaired than may be accounted for from the great bulk and mechanical inconvenience arising from the presence of the tumors of the body and thyroid gland.

It is now twenty-five years since the swelling was first perceived; it came on with violent pain in the lower part of the abdomen, and stoppage of urine; it first made its appearance on the right, and then on the left side.

This patient has frequently undergone various courses of treatment, under the advice of many medical men of high character, but without any appreciable advantage either in diminishing or arresting the growth of the tumors.

It would not be difficult, either from the resources of my own personal observation, or by reference to the practice or writings of other medical men, to bring forward numerous instances of ovarian disease, similar to the above, in which the tumors, partly solid, partly fluid, had existed for many years, with little further inconvenience to the general health than was due to their bulk.

CASE III.—*Chronic ovarian disease—tumor apparently entirely fluid—has existed ten years. Paracentesis performed three times within the last six years. General health not much impaired.*

In August 1838, I first saw Mrs. S., in consultation with my friend Dr. Bland. Her age was about 45; she had never had any family. The catamenia, which had always been regular, had ceased to appear for some years. There was great distension of the abdomen, of a pretty uniform shape, apparently entirely fluid, and fluctuating. There was some emaciation. The general health, although not more impaired than might be considered due to the bulk of the abdominal swelling, was beginning to break. The disease was first perceived four years ago; it did not appear to originate in either side of the abdomen, but was preceded and accompanied by severe dragging pain, extending from the right hypochondriac to the umbilical and epigastric regions. She has umbilical hernia of many years' standing, which she says, "often increases in size from coughing, and is filled with wind."

When placed perfectly flat on her back, the fluid occupies the upper portion of the abdomen, the colon on either side remaining beneath the fluid, and perfectly resonant on percussion. There has never been any anasarca, no signs of diseased heart or lungs, and she never was jaundiced. The urine copious and natural. She has been

subjected to every kind of treatment, often to the injury of her general health, without even the slightest diminution of the abdominal swelling, which, on the contrary, has gradually and steadily increased.

I considered the disease ovarian dropsy, and as she was beginning to experience great inconvenience, both to her health and comfort, from the enormous size of the abdomen, I suggested to her the propriety of submitting to the operation of paracentesis; which was performed on the 21st of August, a week after my first visit, by Mr. Eaton. Upwards of three gallons of clear, straw-coloured, somewhat gelatinous fluid were evacuated. This fluid continued clear to the last, but became a little more gelatinous; there was a copious white deposit on the addition of nitric acid.

Our patient went on uniformly well; suffering only occasional "crampy pains" of the abdomen, and some weakness of the loins; she was soon, however, out and about; her general health was very greatly relieved by the operation, and she enjoyed excellent health in every way. On careful examination of the abdomen, no tumor could be anywhere discovered, and there appeared nothing unnatural in the hepatic region.

The fluid very gradually re-accumulated, and at the end of two years she was again tapped, with the same results in every respect; she was again restored to health and comfort, and at the end of two years was again tapped; but on this occasion the amount of fluid accumulated was considerably less. The result of the third operation was equally satisfactory, and she is now, at the expiration of two more years, beginning to be in a state soon to require its repetition for the fourth time.

This case may be said to be less common than the two former, although by no means of very rare occurrence. In respect of the very satisfactory relief obtained on each occasion of tapping, and the very gradual reaccumulation of the fluid, rendering a repetition of the operation necessary at intervals so far removed as two years, the case may be said to have proved a very favourable one for this mode of treatment. I may remark that, for a long time subsequently to the first operation, this lady took, by my advice, the iodide of potassium and liq. potassæ separately or combined; the interval, however, of the reaccumulation having been the same on subsequent occasions as at the first, but a small part of the favourable progress of the case can, I think, be attributed to this treatment.

CASE IV.—*Ovarian tumor, partly solid, partly fluid. Paracentesis. Death within a year from the first manifest symptoms of the disease. Post-mortem appearances.*

E. R., a single woman, æt. 21, first came under the professional care of my friend Mr. Ferneley on the 21st of June, 1840. The principal feature of the case was retention of urine, the patient not having evacuated the bladder for two days. The bowels habitually costive. The catamenia, irregular, scanty, and pale. The bladder was felt to be much distended, and there was a degree of hysterical manner about the patient. She was much relieved by the use of the catheter, and purgatives combined with hyoscyamus; still, however, some tenderness of the abdomen remained. Shortly after this period, a small, hard, moveable tumor, about the size of a walnut, was perceived above the pubes, rather to the left of the median line. This gradually increased in size, was always painful and tender, the pain much increasing about the monthly period, which became more and more irregular and scanty.

The treatment consisted in occasional local abstractions of blood, salines, with hyoscyamus, mercurial alteratives, aperients, and emollient enemata; and subsequently of iodine used both internally and externally.

In the autumn of 1840, the size and shape of the abdominal enlargment was such as, combined with the general symptoms, to lead Mr. Ferneley and myself to entertain some doubts as to our patient having deceived us respecting the state of the catamenia, and the possibility of her being pregnant. A more careful examination, however, removed this doubt. The tumefaction of the abdomen gradually increased, and evidently became softer in parts; the general health became more impaired, and by the summer of 1841 the distension had become so great as to produce so much distress, and such urgent dyspnœa, as to make

the patient anxious to obtain some relief by the operation of paracentesis. At this time the tumor appeared to be partly solid and partly fluid; adherent in some parts to the parietes of the abdomen, where the cavity appeared to be further distended by ascitic effusion. The general health had become so much broken, mainly, perhaps, from the long continuance of what had been in this case a very painful as well as distressing ailment, that there did not appear any hope of life being much prolonged, not perhaps beyond a few weeks or a couple of months, without some relief being afforded.

On June 5th, 1841, Mr. Ferneley performed the operation of paracentesis, and about four gallons of fluid were drawn off.

The immediate effect of the paracentesis was to afford considerable relief to the dyspnœa. About two days after the operation the wound made by the trochar (which probably never healed) allowed of the discharge of a considerable quantity of fluid, similar to that which had been removed by the operation. She continued to become more enfeebled, a low form of peritonitis supervened, and she sunk on the 17th of June, twelve days after the operation.

The post-mortem examination, which was conducted by Mr. Ferneley and myself, about thirty hours after death, showed a large tumor of the left ovary, adherent to the peritoneum a little above the umbilicus, on the right side, and in its posterior aspect: on attempting to break through the adhesions, the tumor, which was much softened and completely disorganized in parts, gave way in its lower and posterior portion, and discharged a considerable quantity of very offensive matter, somewhat of a puriform appearance, in which flocculi of cheesy matter abounded. The right ovary was slightly enlarged, as was also the uterus. A further examination of the left ovary presented the appearance of cysts containing matters in various degrees of softening or fluidity, and that of the right presented the appearances to be described in the relation of Case VI. The peritoneum presented signs of pretty general inflammation of a low character.

CASE V.—*Ovarian tumor, very rapid in its growth, softening and bursting spontaneously in the recto-vaginal septum—perfect cure.*

On June 19th, 1839, I visited Mrs. P., about 38 years of age, in consultation with Mr. Smith. Mr. S. having been unavoidably detained for some time, I was, after waiting a long time, ushered into our patient's room. I found her labouring apparently under ileus, with some peritoneal inflammation. On placing my hand on the abdomen, however, I was surprised to find the lower portion of it occupied by a tumor in size and uniformity resembling the uterus at about the sixth month of pregnancy, but of universally unyielding hardness; the whole anterior and lateral regions were perfectly dull on percussion, and it was only quite low down on either side that the resonance of the bowels could be detected.

She could give no distinct account of the origin of the tumor; "she thought that she had had some enlargement of the body for three months past, but as it had come on without any pain or other inconvenience, she had paid little attention to it." For a month or six weeks past her neighbours had remarked her increased size, which had by them been attributed to pregnancy; she had been married about twelve months. The catamenia had continued regular, and there was no sympathetic affection of the stomach or breasts.

She had been ill three days: the symptoms were those of ileus and slight peritonitis, with moderate febrile disturbance.

Till my visit she had never suspected that she laboured under any distinct tumor of the abdomen. Her present attack was attributed by her to severe jolting in the course of a long journey over rough cross roads.

Mr. Smith and myself regarded the tumor as ovarian; we considered it an awkward complication of her other symptoms, but determined to treat the ileus and inflammation, whether of the peritoneum or tumor itself, on ordinary principles, hoping that if those symptoms yielded, our patient might remain in at least as good a position as before her attack.

Venesection was performed, but the patient, who appeared nervous about it, having never before been bled, soon became faint, and but little blood was obtained. Calomel and opium, leeches,

aperients, aperient enemata, soothing fomentations, &c., constituted the remaining part of our treatment.

On the 20th and 22d, I saw Mrs. P. again; she went on favourably; the bowels were acting freely under the influence of medicine, and all symptoms of ileus had disappeared, when, on the 25th, I was requested to see her again in consequence of the persistence of considerable pain and tenderness apparently in the tumor, and especially in its left and lower portion. It had perceptibly increased in size, and continued to be *intensely* hard. Leeches, aperients, soothing fomentations, suppositories, carminative enemata, and finally mercurials, constituted the chief part of the treatment. In spite of all the measures adopted, the tumor rapidly increased in size, and appeared to be getting somewhat more yielding, but always remained uniform in shape and feeling as regarded its different parts. Sometimes came a day on which the patient was free from pain, and comfortable, and then two or three when the pain and distress were increased; great and troublesome flatulence supervened, and latterly incessant vomiting.

On the 11th of July we had the further advantage of Dr. Turner's assistance; by this time the abdomen had become as much distended as I think I ever witnessed it either in ascites or ovarian dropsy, and the mechanical impediment thus offered to respiration, &c., was equally urgent as in the worst form of these diseases.

The character of the tumor was the same as before, and it was equally dull on percussion in all directions; it had, however, to my mind, become evidently more yielding. The pain was very great at times, especially on moving. Nothing at all was borne on the stomach; sitting up at all induced faintness.

Large doses of hydrocyanic acid were given to allay the irritability of the stomach. Opiates, the local application of iodine, and iodide of potassium in the shape of ointment, and the internal administration of these drugs in solution, whenever the stomach could be brought to retain them, constituted the chief treatment adopted. In a fortnight from this time we fancied we could detect obscure fluctuation in the tumor; the patient continued to labour for upwards of a month under the greatest sufferings and distress, and was in the utmost peril of her life, when, on or about the 10th of August, without her having previously experienced pain or other sensation in that situation, the tumor gave way in the recto-vaginal septum, and prodigious quantities of fluid escaped in part from the rectum, in part from the vagina. The matter which was thus evacuated was highly offensive, and appeared like a mixture of serous fluid, pus, and flocculi, probably of lymph: as a large portion escaped in the bed, and some in the night-pan, &c., it was impossible to ascertain the exact quantity which was passed. The immediate effect of this escape of matter was to induce some little faintness, and considerable alarm and anxiety; this, however, was speedily followed by relief to all her symptoms: on the second or third day afterwards there was a good deal of pain experienced, followed by another copious discharge of a similar character; from this time the patient continued to do uniformly well. She was soon sitting up, and down stairs. The openings, which had been distinctly felt by the finger, both in the rectum and vagina healed up, as there was no further discharge. The abdomen became quite natural in size and feeling, and continues so to the present time; the patient enjoying excellent health.

[To be continued.]

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue a allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Letter to Professor Liebig on some Misrepresentations contained in the second edition of his work entitled, "Animal Chemistry." By GEORGE KEMP, M.D.

THE author states that while experimenting at Giessen, he ascertained that the contents of the gall-bladder contained two bodies; one rich in nitrogen, the other containing no nitrogen at all, or in quantity so small as hardly to be estimated by ordinary means. The former is the mucus of the gall-bladder; the latter, the main subject of his present inquiry, is the biliary fluid, properly so called. He further determined that the soda found in the bile is not uncombined.

The author next proceeds to charge the celebrated Professor of Giessen with having given "a garbled and mutilated account" of the record of his analyses of bile, as published in *Erdmann's Journal*. For it would appear that Dr. Kemp had instituted two series of analytical researches; one, as to the quantity of carbon and hydrogen, the other as to the entire composition of the fluid.

"The two first of these have been selected by you as expressive of the constitution of the bile; and to them you have attached the amount of nitrogen, oxygen, soda, and chloride of sodium, elicited by two subsequent analyses" (p. 10.)

"Now, Sir, the most superficial reader will perceive, that, by attaching the chloride of sodium, found in my last experiments, to the two first analyses, you have proportionably diminished the quantity of organic matter, and thus you have laid yourself open to the exposure of an inaccuracy which a person, disposed to indulge freely in "*ex cathedrâ* statements, should be scrupulously careful to avoid. In order to show that this misstatement has not arisen from any confusion in my manner of publishing the results, I shall include the passage alluded to in an Appendix. From the above it will be seen how utterly valueless your representations of my analyses are rendered by your attaching the determination of the inorganic portion of one analysis to the organic portion of another; in fact, the analyses 1.2.3. can no more give an insight into the composition of the bile, than the hydrogen and carbon determinations of Messrs. Enderlin, Theyer, and Schlosser" (p. 12).

He then proceeds to show that Professor Liebig's attempt to identify the composition of the substance combined with soda in the bile with that of choleic acid, as furnished by Demarçay, is untenable, because it is proved by calculation "that the organic body in the bile contains one per cent. less of carbon than the choleic acid of Demarçay, and is, therefore, very unlikely to be that body" (p. 14.)

Touching the Professor's next remark: "If we assume that the soda in the ashes of bile is in the form of neutral carbonate, then 100 parts of the organic part of purified bile contains 64·9 of carbon." Dr. Kemp says, "your calculation is again wrong, for the lowest quantity of carbon which I obtained, viz. 58·46 per cent. (supposing the soda remaining behind as NaO,CO^2) would give more than 66 per cent. instead of 64·9, as stated in your work, page 337. I mean nothing offensive, but would really recommend you, in future, to take care that your arithmetic is correct; as errors of this kind not only unnecessarily involve the subject, but waste time in their correction which could be more usefully employed" (p. 15).

Now we must confess that we do not admire the tone in which this censure is conveyed, and which generally pervades the pamphlet before us; and, with all deference to Dr. Kemp, we humbly suggest that the error in question may posssibly be one of the press, inasmuch as $58{\cdot}46 + 11{\cdot}00 = 69{\cdot}46$, the printer having inadvertently put down 64·9 instead of 69·4.

The author next introduces the results of a rather elaborate examination of various kinds of bile. The first is human bile, taken about eight hours after death from a male adult who died of *delirium tremens*. The following are its physical characters: "Colour; deep brownish yellow, without the olive tint which characterizes ox-bile, and leaving a bright yellow stain on the skin, which was washed off with difficulty. Taste; intensely bitter, without the pleasant aromatic flavour of ox-bile. Specific gravity; not examined, as it was desirable to keep as much as possible for analysis; from the quantity of solid matter obtained on evaporation, however, it was inferred that no considerable difference existed between this fluid and the ox-bile in this respect. [The sp. gr. may be examined and determined exactly, without wasting a particle of the bile.] No alkaline reaction was produced on turmeric paper; and here I must mention, that, in examining the human bile and that of carnivorous animals, an error is very easily made with reference to its neutral condition, on account of the intenseness of the colour. The test-paper, after being moistened with water, should be treated with the fluid and again carefully washed; in most cases, when the paper, thus used, has been allowed to dry, a slight streak of brown colouring matter will be observed as a

line of demarcation between the moistened and dry portion; but this is merely due to capillary attraction and the difficulty of removing every trace of the bile by washing. I think, however, that, with these precautions, the human bile, in its perfectly healthy and fresh state, will be found invariably neutral; though I by no means pledge myself to the *converse* opinion. The analysis of this secretion is attended with considerable difficulty, on account of the rapidity with which the solid matter, obtained by evaporation, attracts moisture; this is also the case with the ox-bile, but not in so remarkable a degree."

Having precipitated the mucus by means of alcohol, the remaining biliary fluid evaporated to dryness, and subjected to ultimate analysis, yielded in three experiments:

1. Carbon = 68·4 per cent.
Hydrogen = 10·13 per cent.
2. Carbon = 67·4 per cent.
Hydrogen = 9·6 per cent.
3. Carbon = 68·3 per cent.
Hydrogen = 10·0 per cent.

The combustion in number 2, he observes, was evidently incomplete. The nitrogen obtained by the direct method = 3·44 per cent.; by Wills's method = 3·50 per cent.

The bile of several species of monkey examined was without exception neutral; but although the quantity was so small that no available analysis could be made, they were decidedly confirmatory of the fact, "that the bile is essentially composed of an electro-negative body in chemical combination with one or more inorganic bases."

Having obtained the above results, Dr. Kemp directed his attention to the bile of carnivorous animals. The following are the physical characters of that of the tiger: "colour much brighter than the human bile, but not tinging the skin so deeply;—from the quantity of mucus diffused through it, the fluid was opaque. The mucus presented a totally different appearance from the mucus of the gall-bladder of the ox or human being, and has yet to be examined. Smell; peculiarly strong and urinous. Taste; nauseous, intensely bitter, and not leaving the agreeable after-flavour of ox-bile. The fluid was perfectly neutral."

One striking feature, he observes, of bile in carnivorous animals in every case, is, that it contains no chloride of sodium. It is also singular that the base should be soda. By ultimate analysis it afforded:—

Carbon = 69·6 per cent.
Hydrogen = 11·8 per cent.

The nitrogen was estimated by the direct method, and amounted to 6 per cent.

Having now met with a species of bile containing 69 per cent. of carbon, it seemed a fair opportunity for deciding whether the secretion undergoes any modification by treatment with metallic oxides. A portion was therefore treated with basic acetate of lead in the usual manner. Deducting the inorganic matter from the substance formed by means of oxide of lead, Dr. Kemp obtained:—

Carbon = 62·1 per cent.
Hydrogen = 9·3 per cent.

Now the choleic acid of Demarçay contains:—

Carbon = 63·5 per cent.
Hydrogen = 9·3 per cent.

"With these facts, I do not see how it is possible to resist the conviction, that this body is the choleic acid of Demarçay in combination with oxide of lead; and this being admitted, we must also conclude, in the most unequivocal manner, that *the body contained in this species of bile at least is not* choleic acid; its equivalent weight, its physical relations to other bodies, its quantity of carbon and hydrogen per cent., carry with them a weight of evidence irresistible to a mind not altogether paralysed by prepossession, that it is as different a body from choleic acid as we can conceive."

Leopard's bile stands next in order of investigation. It was procured about eight hours after the animal's death, and possessed the same physical characters as the tiger's bile. It was perfectly neutral. The preparation for ultimate analysis was the same as above; that is to say, the bile was first freed from mucus by alcohol, then from fatty matters by ether, the dry mass treated with alcohol ·840, to separate all salts insoluble in that menstrum, and the substance for analysis obtained from the filtered fluid in the usual way. It yielded upon combustion:—

Carbon = 59·5 per cent.
Hydrogen = 10·0 per cent.

The nitrogen amounted to 4·4 per cent., or 4·6 deducting the ash.

Subjoined is a tabular view of the above analyses :—

INORGANIC PORTION.

	*Ox-bile.[a]	†Human Bile.[b]	Tiger's Bile.[b]	Leopard's Bile.[b]
Soda	6,53	6,6	5,2	4,6
Chloride of Sodium	0,37	1,87		

ORGANIC PORTION.

	Ox-bile.[a]		Human Bile.[b]		Tiger's Bile.[b]		Leopard's Bile.[b]	
	I.	II.	I.	II.		Lead Salt.	I.	II.
Carbon	64,60	64,85	68,4	68,3	69,6	62,1	59,8	59,5
Hydrogen	9,62	9,40	10,13	10,00	11,8	9,3	9,49	10,0
Nitrogen	3,40	3,40	3,44	3,50	6,0		4,60	4,60
Oxygen	22,38	22,35	18,03	18,2	12,60		26,11	25,90
	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00

There is one point which somewhat staggers us in reference to the above analyses, namely, the great difference in the proportion of carbon, nearly 10 per cent., between the bile of the tiger and that of the leopard, two animals so closely allied in conformation, in habits, and manner of living.

At page 32 our author returns fresh to the charge, and asserts that the Professor's formula for choleic acid is merely a deduction from an hypothesis, and contrary to the facts as elicited by analysis.

"The formula you give for the choleic acid is $C_{76}\,H_{66}\,N_2\,O_{22}$=‡9142,62. The formula for two equivalents of Demarçay's acid is $C_{84}\,H_{72}\,N_2\,O_{24}$= §9720,92. Now any person accustomed to the least *practical* research in *organic chemistry*, must be aware that such a difference in combining weight, in bodies even nearly resembling each other in the results of their analysis, reduced to a per centage, cannot by any possibility characterize the same body. Either the analyses of Demarçay and Dumas are false, and in that case your *formula* grounded on no analysis at *all*‖ (for none other than Demarçay and Dumas have ever been made), or else *your formula has been constructed in direct opposition to the facts of the case.* Still further; on analysing the organic portion of the ox-bile, united with soda, the combining weight was found =5644, and it matters not for our purpose whether this number represents half or twice the true equivalent, or the *actual* equivalent *itself;* no kind of violence can bring it near the combining weight of Demarçay's acid. Deducing a formula in the usual manner, and considering the bile as a neutral salt, an assumption much more likely to be true, as we shall presently see, than any other, we find $C_{48}\,H_{42}\,N\,O_{13}$ as representing the organic body. I repeat it again; multiply the per centage, found by me in the ox-bile, by the atomic or equivalent weight already found, 5644, and (until a new atomic weight for carbon, differing widely from any we at present possess, be (given you must come to the number C_{48}, or some multiple or divisor of the same by whole numbers. But not to depend upon mere reasoning, let us refer to the facts, as stated by you in pages 342 and 343 of the second edition of your work in English;—a record of analyses, on page 342, is given as the results obtained by Messrs. Theyer and Schlosser, and, on page 343, of two made in the laboratory at Giessen, and, subsequently, recorded in *Erdmann's Journal* by myself."

The recent researches of Theyer and Schlosser upon the bile are adduced in corroboration of the fact that the body in question can neither be the choleic acid of Demarçay nor the hypothetical choleic acid of Liebig; the former requires 42 equivalents of carbon, the

* The analyses marked [a] were made in the laboratory at Giessen.

† The analyses marked [b] were, by the kind permission of Professor Cumming, made in the laboratory of the University of Cambridge.

‡ C=75,85.

§ Berzelius, B. 9. S. 267.

‖ Depending on public records.

latter 38 equivalents. "Your hypothetical soda salt of the bile, on which you found your theories, consists of C_{38}; even the analysis of MM. Theyer and Schlosser is so obstinate as to force you up to C_{44}: mine, checked, controlled, counter-controlled, and ready to be controlled again, are unfortunate enough to arrive at C_{48}" (p. 36).

At page 39 some contradictory statements are quoted relative to the identity of bile with choleate of soda, from pages 333 and 342 of the "Animal Chemistry."

We conclude our notice by subjoining Dr. Kemp's approximative formulæ of the three kinds of bile.

Graminivorous bile $=C_{48}\ H_{42}\ N\ O_{13}$
Omnivorous bile $=C_{50}\ H_{45}\ N\ O_{10}$
Carnivorous bile $=C_{64}\ H_{61}\ N_2\ O_{22}$

We would again enter our formal protest against the violent tone manifested throughout this pamphlet, and earnestly recommend the author, when he next enters the lists of controversy, to do so as one not "*fervens difficili bile.*"

ON THE FUNCTIONS OF THE TROCHLEARIS MUSCLE OF THE EYE.

"*Miss.*—Madam, one of your lappets is longer than t'other.

"*Lady Answerall.*—Well, no matter; they that ride on a trotting horse will never perceive it."

SWIFT'S POLITE CONVERSATION.

THE difficulty of obtaining an accurate view through a telescope held in the hand is a matter of common experience, although that method of support may suffice for a superficial observation. In like manner, when we are walking or riding, large objects are seen distinctly enough for ordinary purposes; but for an attentive examination we are obliged to stand still. But if to this end it be necessary that the whole body should be at rest, how much more so is it that the eye itself should possess the means of quiescence. In using any voluntary muscle or set of muscles, it must be remembered that the nervous influence is not transmitted in a constant and uniform current, and hence the difficulty we have to hold any thing motionless. If, for example, we hold a weight suspended by a string, our utmost efforts cannot bring it to a state of perfect repose, however it may be made by great practice to approximate to that state. But a very small degree of friction or adhesion enables us at once to accomplish the object without difficulty. Thus, by reflecting the cord over a pulley, or the back of a chair, the weight no longer derives a tendency to motion from our attempts to restrain it, but soon becomes stationary.

With respect to the oculo-motory apparatus, the comparison I would draw would be obvious, were the functions of the nerves which supply it not still matter of controversy.

The view I have long entertained on this subject, and which I would not obtrude upon you if I did not think it original, is that the trochlea is an adhesive apparatus, the tendon passing over it being analogous to the cord in the foregoing illustration, while the hand represents the inferior oblique (a voluntary muscle), and the musculus obliquus superior the gravitating principle, its function being to exercise a constant tension, like the sphincters.

To suppose the oblique muscles in any way a cause of motion of the eyes, belongs to the error of admitting too many causes; since the combined action of two adjacent recti muscles is sufficient of itself to account for every motion, except rotation on the axis of vision, the existence of which is problematical. As the mariner's compass, swung upon two pairs of trunnions fixed at right angles to each other, is capable of receiving every possible direction, so may we conceive of the motions of the eye in respect of two axes corresponding to the recti muscles. For did the side muscles alone exist, the motion of the eye would be horizontal, and the axis vertical. Were, on the contrary, the rectus supe-

rior and r. inferior the only muscles, the eye would move in a perpendicular plane, and the axis of motion would be horizontal; whilst the two conjoined render every intermediate motion and direction practicable.

That the eye rotates on the axis of vision I conceive to be a fallacy; and though, according to Professor Valentin's experiment (of fixing upon some prominent blood-vessel in the conjunctiva, and causing the person experimented upon to incline his head towards his shoulders alternately whilst he keeps his eye fixed upon the same object), though the eye have the appearance of rotating, and especially upon a quick wagging of the head; yet this may proceed from the orbit itself not moving exactly round the axis of vision; whence there is a constant disturbance of the recti muscles; and until these are at rest, and have attained their necessary tension, the proper function of the oblique muscles is suspended. But no sooner does the motion cease, however oblique the position of the head may be, than the blood-vessels observed resume their wonted place. We can roll the eye at will, *i. e.* give a curvilinear motion to the axis of vision—we can also dilate or contract the pupil mediately by a voluntary act—but we seem to have no power over rotation, either immediate or mediate, except as the result of the just cited experiment.

Motions of the eye caused by traction of the muscles in the dead body I hold to be equally fallacious evidence of the living function: first, because the other muscles have not their vital tension; and secondly, because the function of the nerve, as voluntary or automatic, can only be established by experiment on the living subject. To deny the effect of such traction would be to renounce in the same breath the view here propounded; for to imagine the oblique muscles attached to any part of the surface of the eyeball which does not move with the motion of the eye, is impossible. Nevertheless it appears to me that they are attached to those parts of the orbit and the globe of the eye by which they are exposed to the least disturbance during its motions, and are hence the more prompt for action when the recti muscles have given it the direction wanted. It may perhaps be asked, why the involuntary function should be ascribed to the trochlear muscle rather than to the oblique inferior, since in either case the effect would be the same. The question must be answered by the fact, that the latter derives its nerve from a common source with the rectus internus and r. inferior, while the obliquus superior has a particular nerve assigned to it. The same physiologist, indeed, ascribes a more or less automic action to all the three muscles supplied by the inferior branch of the 3d pair, viz. the rectus internus and r. inferior, and the obliquus inferior; whilst the rectus externus supplied by the 6th, the rectus superior by a branch of the 3d, and the trochlear muscle supplied by the 4th, are in the Professor's estimation purely voluntary muscles. The fact, however, of the rectus super. and r. infer. being both furnished with branches of the same nerve, though not conclusive, affords at least, in the absence of experiment, a presumptive argument that they enjoy the same function. Further, through the necessity of parallel motion in the horizontal plane, the abducent nerve of the one eye acts in concert with the adductor branch of the other: thus making, according to the above hypothesis, a voluntary and an automatic muscle to act in unison, or the abducent muscle of one eye to be the antagonist to that of the other. But this is incompatible with the fact, that monoculi move the eye in any di-

rection, to the right and to the left, with as much ease as they who enjoy the use of both.

In a letter inserted in your journal some years since, I endeavoured to prove that the motion of the iris is not altogether automatic or reflex, but that one of its functions is to elongate the axis of the eye, in order to correct vision; and trusting these views on the nearly related subject of external motion will have novelty enough to procure them a place beside the other, I remain, Mr. Editor, your obedient servant and old correspondent,

ZETA.

CASE OF EMPYEMA:

CAN THE OPERATION OF PARACENTESIS THORACIS BE DIVESTED OF THE DANGER WHICH AT PRESENT ATTENDS IT?

BY JAMES ARNOTT, M.D. Brighton.

(*For the Medical Gazette.*)

WILLIAM WATERMAN, a child three years of age, of healthy constitution, was attacked with pleuritis in the first week of April last, and became a patient of the Brighton Dispensary. The disease was of ordinary character, and was judiciously treated according to the usual routine, by leeches, antimonials, blisters, &c. When the case first fell under my observation, the more acute symptoms had ceased, and the irritative fever under which the child then laboured appeared to proceed as much from the effects of one of the remedies which had been applied, viz., the blister, as from the disease. There were, besides, dyspnœa, cough, and pain in the right side, which, on percussion, was completely without sound, and on the upper part in front, and lower part all round, completely without respiratory murmur. Very little improvement took place under the treatment employed; much emaciation, with debility, ensued. Mercurials and diuretics were about this time administered, with a view of exciting the absorption of the effused fluid, but as they disturbed the functions of the digestive organs they were not persisted in, and the only medicine at last exhibited, in addition to what the state of the bowels required, was an anodyne mixture for the distressing cough.

About the 15th of June, the dyspnœa, cough, and hectic fever, became much increased in severity. The affected side of the chest measured considerably more than the other, while the signs yielded by percussion, and ascertained by the stethoscope, continued as before. I now became anxious to relieve the urgent symptoms by tapping the thorax, and as the parents had witnessed the total inefficacy of all the other measures employed, there was no great difficulty in obtaining their consent. The operation, however, was not performed. On the day appointed for it a considerable change was found to have taken place, which authorised, if it did not demand, a delay of this expedient. The cough had suddenly subsided, and (according to the statement of the child's mother) immediately after nearly a cupful of yellowish matter had been expectorated or evacuated by the mouth. On examining the thorax on this occasion, instead of the right, the left side now appeared the larger, and proved to be so on admeasurement. The left side seemed likewise to be more protuberant, and more resonant on percussion, than in the natural state, as if the greater demand on its functions had increased its substance or its bulk. The right side was perfectly dull as before, excepting at the root of the lung, where, as is generally the case, even in the most extensive effusion, there was also a sound of respiration. As nausea and other disturbance of the primæ viæ had been caused by the anodyne lately prescribed, it was discontinued; and, excepting an occasional aperient, no medicine has been since administered. From the date of the above occurrence, there has been steady, though slow, improvement. The cough has gradually disappeared, and has only on the occasion mentioned been attended with much expectoration, although, from children generally swallowing what is coughed from the lungs, it is difficult to speak with precision on this point. There is now scarcely a symptom of disease. The child looks well, and has recovered much of its flesh, but the breathing is perhaps quicker than natural, and the pulse rather more frequent. The right side of the chest is resonant

as low as the fourth rib, and the respiratory murmur is heard above this level, though not so loudly, perhaps, as is natural, or as it is in the other side. Below the fourth rib there is neither resonance nor respiration heard; and there is evidently contraction of the lower part of the right side, with a slight bending of the spine.

Observations.—No point in practical medicine is more undecided than the circumstances which authorise the having recourse to the operation of paracentesis in cases of effusion within the thorax; and as the professional attention happens at present to be particularly directed to the subject, it may not be unacceptable to subjoin a few remarks on it as a commentary to the above narrative.

In the early symptoms of this case of pleuritis there was nothing worthy of notice, nor anything in the physical signs. Indeed, the history of the disease threw so much light on its nature as to render it unnecessary to attend to the less important of the signs with a view to the diagnosis. It was in the progress of cure that the case became interesting. The first step of this appeared to be the copious and sudden expectoration of pus, as if a circumscribed abscess had burst into the lung, and removed that extreme degree of pressure which impeded absorption. But the principal value of the above history is the illustration it affords of what may be effected in chronic pleuritis or empyema by the unaided efforts of nature. There may, perhaps, have been advantage from the measures resorted to in the early stage, but they nevertheless failed in removing the disease; and from the time the operation of tapping appeared expedient, no medicine whatever was exhibited, excepting an occasional aperient. It remains a question, however, whether the cure would not have been facilitated and rendered more complete by an early operation; whether the duration of the disease might not have been shortened, and the loss of function in the lower part of the right lung by long-continued compression and investment by false membranes, might not thus have been prevented. And this question respecting the propriety of endeavouring to obtain such desirable results is rendered additionally important when the patient interested in its decision belongs to that class whose livelihood and welfare generally depend upon their possession of every bodily energy.

To compress my observations into as little space as possible, I shall state, in as many paragraphs, first, the points respecting the operation of paracentesis which are generally agreed upon, and afterwards, the points on which there still exists much discrepancy of opinion.

1. It is generally admitted that paracentesis thoracis is an operation accompanied, under all circumstances, with considerable hazard, and that this arises principally from the admission of air into the cavity of the inflamed or otherwise morbid pleura; the air acting injuriously on this, either directly, or by causing the decomposition of the purulent liquid contained between its laminæ. There can be no just comparison made, as respects the admission of air, between certain healthy tissues and the pleura in the state described.

2. That the earlier the operation is performed the less hazard there is, and the more likely is the operation, if really required, to be of service. This point was much insisted on by Dr. H. Roe, in a paper lately read before the Medico-Chirurgical Society; but the principle of the hazard being less in proportion as the operation is early, applies to every important surgical operation without exception. Every body knows, for instance, that though the operation for hernia may be performed with comparative safety while the constitution and the parts adjoining the seat of the disease are sound, yet no one would think of performing such an operation, comparatively safe though it may be, while there is much probability of removing the disease by less hazardous and milder measures*.

* If these, indeed, were only those at present generally in use, it might be a question whether the patient's interests would not be better consulted by at once liberating the intestine by the knife; but, as I have lately endeavoured to shew, in an essay on the subject, that the means in question may not only be much improved and extended, but the more efficient class of them may be used in combination, instead of the isolated manner in which they are at present employed. There is, in my opinion, as much defect in the preliminary measures adopted at present in strangulated hernia, as there would be in those preliminary to paracentesis for the removal of effusion from pleuritis, were bleeding, antimony, or mercury, totally laid aside, or employed successively instead of simultaneously. If the proper preliminary measures (as they are called) are adopted in hernia, the operation for it will, I am persuaded, be as rare as another capital operation, namely

3. That the operation, although not without inherent danger, has been too much neglected; that it ought, in many cases, to be resorted to in preference to a reliance on the efforts of nature, or the remedial measures at present in use; and this, not only to avoid a fatal termination, but to render the cure more complete.

The points yet undecided are principally,—

1st, the proper mode of performing the operation, particularly as regards the exclusion of air; and, 2dly, the proper time or stage of the disease for performing it—whether it ought to be regarded as a valuable remedy in the earlier stage, or merely as a last resource.

1. It has been the fashion amongst English surgeons for some time past (an absurd fashion, introduced, I believe, by the late Mr. John Bell) to express, on all occasions, the greatest aversion to any thing like complexity in their apparatus. Mechanical science, so far as regards them, may be said to exist in vain; consequently the various expedients, more or less perfect, which have been used on the continent to prevent the entrance of air into the thorax, have never been adopted in England, as being inconsistent with the English love of simplicity. In the discussion on paracentesis already alluded to, at the Medico-Chirurgical Society, a distinguished member recommended, with a view to the exclusion of the air, that a steady pressure, by the hands of an assistant, should be kept up on the thorax until the extraction of the trocar; and that only a part of the effused fluid should be withdrawn. It is scarcely necessary to state that this is a most uncertain mode of attaining the object; and even were it otherwise, by retaining part of the pus, the object would be attained at too great cost.

Previously to describing what I think would be an improvement on the methods at present in use, it is necessary that I should state my opinion that the entrance of air into the cavity of the chest is not the sole cause of the ultimate aggravation of symptoms, and fatal results, that have so often followed the *immediate* though short relief obtained by paracentesis. In addition to this, I conceive that there is frequently irritation produced by the sudden and forcible distension of the lung and its investing false membranes, from the ingress of air through the trachea.

To obviate the entrance of air through the trocar into the cavity between the pleuræ, and the irritation from distension, I would propose keeping the outer end of the narrow trocar in distilled water while the effused liquid is escaping, in order that the water may be sucked into the pleural cavity in the event of the lungs not *easily* yielding to the air admitted by the trachea; and at the same time any entrance of air by the puncture in the skin may be prevented by surrounding the trocar, where it passes through it (the puncture having been made in the manner recommended by Dupuytren,) by some soft adhesive matter. It is long since the idea of placing the patient in a bath occurred to me, but there are many objections to such a plan, which, however, as we learn from Dr. C. J. B. Williams, has been lately successfully employed in Germany. The difficulty which first presents itself in the plan which I have proposed, of keeping the end of the trocar steadily at a small depth in the water, is surmounted by fixing it for the time to the bottom of a shallow vessel connected with another containing a large supply of water, on the principle of the bird-glass—as a teacup or saucer may be supplied with water from a quart bottle inverted in it.

The same purposes might perhaps be as well, if not better, attained by allowing the pus to escape through a trocar, round the outer end of which a bladder has been tied, containing some unirritating and in other respects innocuous gas. And still farther to guard against the sudden expansion of the lung, or stretching of its investing membranes, this gas (azote?) might perhaps be forced through the trocar at an early period of the operation, so as to occupy the whole or part of the space occupied by the fluid, until it should be removed by absorption. Useful facts in connection with this subject might be established by a very few experiments in comparative physiology.

that of the trepan (once resorted to on almost every occasion of injury to the head), has now fortunately become. And it may be that paracentesis thoracis will likewise be rendered as unnecessary by a similar improvement in preliminary measures.

2. Were the operation thus divested of the hazard usually attending it, and rendered as safe as the minor operation of opening a common abscess, it would be an easy matter to determine under what circumstances it should be performed. Whenever it was ascertained, by having recourse to the diagnostic means for which we are indebted to Laennec and Avenbrugger, that absorption was not taking place so rapidly as it usually does in cases where the cure is rendered complete by this alone, and where there is consequently danger of loss of function in the lung by its long-continued compression, then would be the proper period for the application of this remedy. If delayed until the lung has become bound down by false membrane, or been made itself incapable of expansion, the mischief will not only be to a certain degree irremediable, but it is questionable whether, under ordinary circumstances, much of the pus could then be removed, unless some such expedient as supplanting it by an innocuous gas were resorted to. And is not the want of expansibility in the lung in many cases of chronic pleuritis a principal cause of the effused fluid being so slowly removed by absorption? Where the lung is permanently compressed, the rising of the ribs (if still capable of motion) and depression of the diaphragm will cause a disposition to a vacuum in the cavity of the pleura. Does not the same disposition act injuriously in pneumonia, by producing vascular congestion where the expansibility of the lung is diminished by disease? Supposing that such a gas as has been indicated could be safely injected between the pleuræ in such quantity as to compress the lung and prevent its motion, in cases of pneumonia, hæmorrhage from, or ulceration of the lungs, where (as is generally the case) one side is only affected, and where it is desirable that the diseased part should remain undisturbed, what would be the effect? In order to reply to these questions there would be a necessity for referring to many yet undetermined points in physiology, and instituting an inquiry incompatible with the purpose of these practical observations. At some future time I shall resume the subject.

Brighton, July 1844.

COUNTERFEIT BLINDNESS;

INVOLVING A CAUTION TO SPECTATORS OF MESMERIC EXHIBITIONS.

To the Editor of the Medical Gazette.

Sir,

Without at present agitating the question of mesmerism, or at least that part of it which regards clair-voyance, &c., it may not be mal-à-propos to remind the public, that deception may be carried to a very great extent—by well-organized collusion, to a point almost incredible. Of this the following extract from M'Crie's Life of John Knox affords one of the most remarkable examples.

I have the honour to be, sir,
Your obedient servant,
George Lefevre, M.D.

London, July 1844.

In the neighbourhood of Musselburgh was a chapel dedicated to our Lady of Loretto, the sanctity of which was increased from its having been the favourite abode of the celebrated Thomas the Hermit. To this sacred place the inhabitants of Scotland, from time immemorial, had repaired in pilgrimage, to present their offerings to the Virgin, and to experience the virtue of her prayers, and the healing power of the wonder-working "Hermit of Lareit."

In the course of the year 1559, public notice was given by the friars that they intended to put the truth of their religion to the proof, by performing a miracle at the Chapel of Loretto, upon a young man who had been born blind.

On the day appointed, a vast concourse of people assembled from the three Lothians. The young man, accompanied by a solemn procession of monks, was conducted to a scaffold erected on the outside of the chapel, and was exhibited to the multitude. Many of them knew him to be the blind man whom they had often seen begging, and whose necessities they had relieved. All looked upon him, and pronounced him, stone blind. The friars then proceeded to their devotions with great fervency, invoking the assistance of the Virgin at whose shrine they stood, and of all the saints whom they honoured; and after some time spent in prayers and religious ceremonies, the blind man *opened his eyes*, to

the astonishment of the spectators. Having returned thanks to the friars and their saintly patrons for this wonderful cure, he was allowed to go down from the scaffold to gratify the curiosity of the people, and to receive their alms.

It happened that there was among the crowd a gentleman of Fife, Robert Colville, of Cleish, who, from his romantic bravery, was usually called Squire Meldrum, in allusion to a person of that name who had been celebrated by Sir David Lindsay. He was of Protestant principles, but his wife was a Roman Catholic, and she being pregnant at the time, had sent a servant with a present to the Chapel of Loretto, to procure the assistance of the Virgin in her approaching labour. The squire was too gallant to hurt his lady's feelings by prohibiting the present from being sent off, but he resolved to prevent the superstitious offering; and with that view had come to Musselburgh. He had witnessed the miracle of curing the blind man with the distrust natural to a Protestant, and he determined if possible to detect the imposition before he left the place. Wherefore, having sought out the young man from the crowd, he put a piece of money of considerable value into his hand, and persuaded him to accompany him to his lodgings in Edinburgh. Taking him along with him into a private room, and locking the door, he told him plainly that he was convinced he had engaged in a wicked conspiracy with the friars to impose upon the credulity of the people, and at last drew from him the secret of the story. When a boy, he had been employed to tend the cattle belonging to the Nuns of Sciennes, in the vicinity of Edinburgh, and had attracted their attention by a peculiar faculty of turning up the whites of his eyes, and of keeping them in this position so as to appear quite blind. This being reported to some of the friars in the city, they immediately conceived the design of making him subservient to their purposes; and having prevailed on the Sisters of Sciennes to part with the poor boy, they lodged him in one of their cells. By daily practising he became an adept in the art of counterfeiting blindness; and after he had remained so long in concealment as not to be recognized by his former acquaintances, he was sent forth to beg as a blind pauper, the friars having previously bound him by a solemn vow not to reveal the secret. To confirm his narrative, "he played his part before Cleish, by *flyping* up the lids of his eyes, and casting up the whites, so as to appear as blind as he did on the scaffold at Loretto."—*M'Crie's Life of John Knox*, vol. i. p. 324.

MEDICAL GAZETTE.

Friday, August 2, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

ANOTHER AND A LAST WORD ON MESMERISM.

We had no conception that mesmerism was any thing half so silly as we find it to be in fact. The mysterious, the awful, the incomprehensible, have a certain influence over most minds; and, not understanding the principles of animal magnetism, we were really prepared for something that should appeal to our innate sense of the supernatural, when we went, on special invitation, as witness to an exhibition of Alexis the somnambulist. We were wofully disappointed, and from first to last saw nothing but the most flimsy attempts at trickery and imposition either successfully baffled, or as easily exposed. Alexis is neither more nor less than a poor juggler, and not to be compared with Herr Döbler, who is a gentleman, and can look his assembly in the face with a pleasant and an open expression of countenance; and why? Because he feels that he is an honest man, and wins his bread by innocently amusing us for an hour, by taking us out of our present selves for a brief interval, and restoring us to our childhood again. We have a respect for Herr Döbler, all the more, because we

have been given to wit that he is actually one of ourselves, or was intended to have been so at all events, had he not happily fallen in with a more lucrative profession. We love Herr Döbler, then; we respect him. We cannot say that we love Monsieur Alexis; the lad has an unhappy scowl; he looks out from the corners of his eyes, he is given to biting his nails, and has altogether the air of one addicted not to open honest legerdemain, like Herr Döbler, but to downright deception. As to M. Marcillet, his magnetizer(!), who has been spoken of as Alexis's master, we very much doubt the correctness of this view. M. Marcillet, we are strongly inclined to believe, is sincere in his faith in mesmerism; and far from being the *master*, we strongly suspect that he is the *man*; the biter, in one sense, is himself well bitten. M. Alexis does not only *do* the gaping world of wondermongers; he *does* his bosom friend. *Mutatis mutandis*, M. Marcillet seems to us the 'Oliver Twist,' "so jolly green," rather than the 'Fagan' of the story: M. Alexis, 'the Artful Dodger,' not only robs his master, but he does it with such consummate skill, that his master never even suspects that he is robbed. It requires some one standing aloof and looking on, to see that all the articles do not come from the salt-box, and the pocket, where they have been purposely stowed, to exercise the ingenuity of the young aspirant to accommodation at the public charge.

But we have made up our mind about mesmerism: it all comes of the innate love of the marvellous, and the difficulty in the present overcrowded state of society of gaining an honest livelihood. Here is, in fact, a young man who would probably find it no easy matter to meet with opportunities to earn his daily bread by wide-awake-work from sun-up to sun-down, who lives luxuriously, lies warm, and has white and soft hands, all by dint of appealing to the love of the wonderful in human nature! Had Alexis one faculty that was useful to mankind, he might run the risk of starving; did he live, it would be by dint of honest application in a tailor's or a grocer's, or a haberdasher's shop perchance; but the lad is absolutely useless; he can only go to sleep, or pretend to go to sleep, and in a dreamy state, with eyes half open, do nothing that had not as well be left undone; play tricks that are utterly stale, and make guesses that are not beyond the sagacity of a child five years of age; and forthwith he is an object of especial consideration! he is invited to the houses of noblemen and gentlemen, and is well paid for the impositions he practises upon them into the bargain, instead of being taken before the Magistrate as a rogue and vagabond, introduced to the Governor of the House of Correction, and by him presented to the proper functionary, to be shown the wheel that turns without advancing.

But idleness is said to be natural to man; to escape regular work, it is well known that there is many a lazy lout who will endure a good deal even of temporary bodily pain. Theodore Hooke hit off one of the secrets of these mesmeric exhibitions admirably: "What on earth can have brought you to this line of life?" said one quondam friend to another, after having seen him publicly mesmerized and submit to have pins thrust through the gristle of his nose and the lobes of his ears,—"What on earth can have brought you to this pass?" "The necessity of living, my friend!" "And what may you have for your services?" "*Three-and-sixpence for the exhibition, and a shilling for each pin!*"

And M. Marcillet, too; who knows

aught of him, and how he lives, although he styles himself a *negociant* of Paris? he also may find it hard to live; and, a second Trinculo, may have said to himself: "Were I in England now, and had this fish painted, not a holiday fool but would give a piece of silver—there would this monster make a man: when they will not give a doit to relieve a lame beggar, they will lay out ten to see a dead Indian." And, in truth, though we hate imposition, and cannot help feeling contempt in our secret soul for all of easy faith who are the dupes of the vast variety of impostors and quacks—mesmerists, homœopathists, and hydropathists, professed squint-cutters and rectum doctors, curers of cancer and consumption, *et hoc genus omne*, who sail under the ensign of ignorance and dishonesty,—we feel no pity for the victims, and cannot help seeing that their depredators are, in a certain sense, *clever fellows*, men who can make silver spoons out of rams' horns, and silken purses out of asses' ears.

So often as mesmerism has been tested by competent persons, it has been exposed, and proved beyond a shadow of doubt to be delusion and deception. Alexis never succeeds save in presence of an assembly composed in large proportion of credulous women. He owned in our hearing, to the question put to him by a physician, that he always failed before "*les grandes personnages de l'Académie*," such as M. Arago, M. Biot, &c. and he spoke of his successes at other times as *coups*—strokes, lucky hits. He fails when there is intellect and the habit of research to test him in rare instances; he succeeds in other and ordinary cases when he has incompetence and credulity as his judges and jury—*vulgus vult decipi, et decipiatur*.

This calling in of the male sex as the pathic in mesmeric exhibitions, has done a good deal to open the eyes of the reasonable public to the deceptions of the system; the most complete exposures have taken place with boys as the sleepers and clear-seers. With a youth we have no reserve; we try him home, and care not to make him blush, and prove him openly a cheat. We cannot do so with a woman. For our own part, we have always heartily pitied the poor young creature who is the ordinary victim of the arts of the mesmerist; it is but another kind of seduction on his part; another kind of prostitution on the part of the pathic; for what woman of mind and true delicacy would submit to have her senses sealed by a bearded fellow, in private, or to expose herself in the helpless state of sleep to the rude gaze of a crowd of men? We have instinctively seen the fact of women being the usual subjects of mesmerism, as evidence of the power of the strong over the weak: mesmerism is certainly sexual in a great measure; it is woman's nature to please her lord and master in any way. She may say with Viola, indeed—

> "Alas! our frailty is the cause, not we;
> For such as we are made of such we be."

We add a few lines more from our indigenous Bible of morals and philosophy, for the especial guidance and safeguard of our fair friends, and as a warning to them to beware of mesmerisers as among the number of those who would degrade them. Let them still say with Viola—

> "Disguise, I see thou art a wickedness
> Wherein the pregnant enemy does much.—
> How easy is it for the proper false
> In women's waxen heart to set their forms!"

And now, with an apology to our friends that we have ever occupied them with this subject of mesmerism at all, we promise to do so no more. To those who are not led away by their love of the marvellous, but who may be in doubt upon the matter, we close what we have to say upon it in these words of wisdom from the pen of one of the

most distinguished physiologists and able and candid inquirers the world has ever seen, Dr. Johannes Müller. Speaking of the so-called animal magnetism, he says:

"These tales, however, are a lamentable tissue of falsehood, deception, and credulity; and from them we have only learned how incapable most medical men are of instituting an experimental investigation, how little idea they have of a logical criticism, which in other natural sciences has become a universal method. There is no single fact relating to this doctrine which is free from doubt, *except the certainty of endless deceptions;* and in the practice of medicine there is also no fact which can be connected with these wonders, except the often repeated, but still unconfirmed accounts of the cure of paralysis by investing the limbs with the bodies of animals just killed, and willingly credited fables of the restoration of youth to the old and diseased by their being in the proximity and exposed to the exhalation of healthy children."

ELECTION OF THE

NEW COUNCILLORS AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

On Wednesday last, a meeting of the Fellows was held in the Theatre of the Royal College of Surgeons, for the purpose of electing three additional councillors under the provisions of the new Charter. There were about a hundred and twenty Fellows present; among them we observed the majority of the members of the Council, and several provincial Fellows—Mr. Cother of Gloucester, Mr. Soden of Bath, Mr. Wickham of Winchester, and others.

At three, the President (Sir Benjamin Brodie) took the chair, supported on either side by the vice-presidents, Mr. Samuel Cooper, and Mr. Lawrence: the secretary, and the solicitor of the College, were present.

The President said that the Fellows were assembled on the present occasion to elect three new members of Council, according to the provisions of the new charter. It would be impossible for him, considering the quantity of business to be dispatched, to express what he felt, but this much he would say, that if any thing could increase the interest which he felt in the profession, it was presiding over so large and respectable assembly on the present occasion. It was desirable to have on the council not only men who had distinguished themselves in their profession, but men of business-like habits, who would not grudge the time in attending to the various concerns of the College, sometimes day after day, in committee; for the museum, library, and general affairs of the institution, involved great care, and required much attention. The Secretary would now read over the section of the charter and bye-laws relative to the election, if any Fellow desired it, and then read twice over the names of each Fellow, and when any one wished to nominate a Fellow, he would state his intention, and fill up a form which he would find provided on the table. As a copy of the charter and bye-laws had been sent to each Fellow, the meeting might not, perhaps, require these to be read.

Mr. Cother observed that as this was the first meeting under the new charter, and considered offensive by a large body of the members, the proceedings could not be conducted with too strict an attention to formality. After some little discussion, the sections in the charter and bye-law, which we gave in our last number, relative to the election, were read by the Secretary. The names of the Fellows were then directed to be read over in chronological order.

Mr. Grainger begged, before the names were read, to ask the President whether it would be open to the Fellows to make any observations concerning the election or qualifications of candidates whom they might wish to nominate.

The President observed that, as in parliament no member could speak except by suffrance, unless he intended to end with a motion, so he thought, on the present occasion, the same rule should be observed. Still, if any Fellow had any observation to make, he would not wish this rule to be acted on too stringently, and would hear him. As to any observation on the merits of the candidate, he thought it highly inexpedient, and considered that these should not be discussed. Every one present is

supposed to have made himself acquainted with the claims of those who may be nominated, and observations in favour of any candidate might lead to replies, and remarks of an opposite character.

The Secretary then proceeded to read over the names of the Fellows, each name being read over twice in a slow and distinct manner.

On Sir Stephen Love Hammick's name being mentioned, Mr. Gay rose and begged to nominate him; the nomination was then signed by two other Fellows, and handed to the President.

The next name put in nomination, in the same form, was Mr. Montague Gossett.

On the name of Mr. Kingdon being called, a Fellow rose to nominate him, but Mr. K. declined the honour.

When Mr. Lloyd's name was read over, a Fellow immediately rose to nominate him; on which Mr. L. said that he had been urged by several friends to allow himself to be put in nomination, but as he had been treated by some of the Council most maliciously —he would repeat, most maliciously, as he was able to prove—he had come to the determination not to allow himself to be put in nomination.

Mr. Macilwain also declined to allow himself to be put in nomination, observing that, in the present constitution of the College, he could not possibly be of any service to the profession if elected.

Mr. Welbank was then nominated; and the number put in nomination being three, the ballot commenced, each Fellow, previous to balloting, signing his name and address in a book provided for the purpose. The balloting began at a quarter to four, and at twenty minutes past four all who intended voting seemed to have done so. At this time the President stated that, unless any Fellow balotted within ten minutes, he should declare the ballot closed. At the expiration of the ten minutes, no Fellow having voted, the boxes were opened, and Mr. Welbank only was declared to be elected.

Mr. Scott and Mr. Cutler were then put in nomination, and, on the close of the ballot, declared to be elected. The names of the three new councillors, Mr. Welbank, Mr. Scott, and Mr. Cutler, were then formally announced.

The President said that he could not allow the meeting to separate without thanking the Fellows for the regularity and care with which the proceedings had been conducted.

ON DRS. CRAWFORD & TWEEDIE'S VIEWS OF INFLAMMATION.

To the Editor of the Medical Gazette.

SIR,

SINCE Dr. Copland has taken no notice of the objections which have been brought against his views of the nature of inflammation, as contained in his Dictionary of Practical Medicine, it would seem as if he cared little whether the doctrines he teaches be right or wrong. It cannot be said that this is a point of no moment, however; for inasmuch as there is scarcely any disease in which the consideration of either a greater or less degree of inflammation is not sooner or later involved, truth and accuracy in such a question are of the very first and last importance. A correct interpretation of the phenomena of inflammation is, moreover, an *absolutely essential preliminary* to the right appreciation of the nature of fevers of all kinds; a question on which I shall have something to say hereafter.

I propose now to turn to the article on Inflammation, by Drs. Crawford and Tweedie, in the Cyclopædia of Practical Medicine. This work was ushered into the world with much circumstance and flourish; there was a long array of contributors, containing names already distinguished in the various departments of practical medicine; and I believe it was intimated that each article would be confided to the care of this or that individual, according as the subject matter of it might be connected with his previous and peculiar line of study, or accidental opportunities of observation. It is a work, therefore, of more pretension than Dr. Copland's Dictionary; and as the article on Inflammation has been considered of sufficient importance to be committed to the charge of more than one gentleman, we should expect to find the whole of the phenomena, both physiological and pathological, relating to it, developed with unusual clearness and precision. On this account I was much disappointed, in examining this article with the view of ascertaining what doctrines

are advocated by its authors, at finding what appeared to me a great want of decision, more particularly throughout the early part of it. It struck me very forcibly, and the impression grew stronger as I proceeded, that the writers evince more solicitude to avoid than to grapple with the difficulties of their subject; that they rather hope than believe the truth may be found between two wide extremes. Thus they say, for instance—"There has been much difference of opinion among physiologists respecting the degree of influence exercised by the brain and spinal marrow over the organs of circulation; some concluding from their experiments that the action of the heart and blood-vessels is wholly independent of this portion of the nervous system; while others adopt, as the result also of experiments, a directly opposite opinion. The *medium* between these contradictory views *approaches probably* the nearest to truth." In the next paragraph these gentlemen appear to adopt the first of these opinions, though it is only doubtfully expressed; and in the succeeding paragraph they give a quotation from Andral, which tends to support the last. Thus they touch gently on each side, as it were, with a trembling and a timid hand, disturbing every question and settling none, so that it is no easy matter to make out what are the precise opinions which they themselves entertain. At length, however, on entering upon the question of the irritability of arteries, the authors venture to speak so decisively, as to enable me to join issue with them: they say, "The facts brought forward, however, in support of the opinion that the extreme vessels possess a contractile power, appear to us so convincing and satisfactory, as to set aside completely the opposite theory." In this brief statement no argument is refuted, nor is any reference given as to where these facts may be met with: an attempt is made to cut through with a bold stroke what it was found inconvenient to unravel;—yet even here the writers' weakness and infirmity of purpose are no less manifest than in the example I have already mentioned; for in the very next paragraph they say, "Each theory appears to contain much that is true, especially that of Dr. Hastings;" who is entirely opposed to the doctrine they had espoused. However, if these facts be so convincing, there can be no difficulty in producing or referring to them. For my own part, I can say that I have carefully gone into the details of probably some hundreds of experiments bearing upon this question; I have certainly not found the evidence which seems to have been so satisfactory to these gentlemen. I cannot but know that a general constriction of the extreme vessels, or perhaps, more correctly speaking, of the tissue which contains these vessels, by the application of certain agents, which constriction will *sometimes* be complete in *two minutes*, and which may *sometimes* be reproduced as many as *nine times* in an hour: but I never could understand that such facts as these contain any evidence of a capability of acting *many times in every minute*, and *many hundred times in every hour*. I should imagine, therefore, that some new facts which have escaped my observation must be alluded to; and I should feel obliged if either of the above mentioned gentlemen would have the goodness to point out where they may be found.—I have the honour to be, sir,

Your obedient servant,

J. W. Earle.

Cheltenham, July 1844.

ST. GEORGE'S HOSPITAL.

TWO CASES OF FRACTURE OF THE SKULL; WITH OBSERVATIONS.

John Pickles, aged 45, on the 13th of April was riding on the top of a market-cart, when, having taken on his journey a considerable quantity of rum and water, he fell asleep: the cart in its progress came in contact with a lamp-post, and the concussion precipitated the man head foremost upon the pavement. He was immediately conveyed to St. George's Hospital in a state of insensibility: a considerable quantity of blood issued from the left ear, and a small quantity from the left nostril: the pupils were fixed, but not dilated: the limbs at first lay lifeless by his side; but he soon began to turn in bed. After he had been in the hospital for some time the pupils became dilated, and his mouth was at the same time observed to be drawn to the right side. He moaned in breathing, and the pulse was now 92, and rather sharp.

Sixteen ounces of blood were taken from the arm about a quarter of an hour after

his admission: the pulse at the same time rose in frequency, and became softer; the pupils regained their natural degree of contraction, and he became more quiet. Some time after the bleeding, the breathing became rather irregular; the pulse 88, soft, but intermittent, and the retraction of the mouth to the right side more evident. In the evening he regained his senses; but he passed a restless night. On the 14th, he answered very rationally the questions put to him, but with some abruptness of manner. The pulse remained at about 80; and he got some undisturbed sleep: pupils natural: could hear very indistinctly with the left ear, and said he supposed he had caught a cold in it.

On the 15th the pulse remained at 80, and the sharpness of manner had diminished.

17th.—Some peculiarity of manner remained, with slight pain in the head: no paralysis was now observable.

22d.—Had passed a restless night—headache.

29th.—Slight deafness on the left side was the only symptom which remained.

30th.—He left the hospital.

Matthew Burt, 53 years of age, was on the 22d of April struck upon the top of the head by a quoit pitched from a distance of 17 yards. He fell to the ground, and remained insensible for about three minutes, after which he gradually recovered, and returned home. He passed a restless night, complaining of severe aching pain at the back part of his head, and, according to his wife's account, it was occasionally with difficulty that he could be kept in bed. On the morning after the accident he was brought to St. George's Hospital: a wound existed at the upper part of the head, exposing a depressed portion of bone one inch and a half in length, and half an inch in breadth, situated immediately over the longitudinal sinus. This portion of bone presented a fracture through its centre, the edges of which were more depressed than the surrounding parts. At the time of his admission into the hospital he was perfectly conscious, and appeared to experience little inconvenience from the injury. He had no sickness, and the pupils were natural—pulse 60, labouring: the crown of a trephine was applied at one extremity of the depressed portion of bone; the diploe of the bone was found occupied by extravasated blood, and the internal table separated from the external, and broken into several pieces. Nearly the whole of the depressed portion was therefore removed: the dura mater was not injured. After the operation, the pulse was 64; towards evening it rose to 84, and continued labouring. He complained at the same time of intense pain in the head, and giddiness. Some blood drawn from the arm became buffed and cupped,

On the 25th, had passed a good night, and appeared much more tranquil than on the previous evening.

The breathing was easy, and the pain in the head less: pulse 120, jerking: a small quantity of blood taken from the arm did not become buffed or cupped. He was ordered calomel and opium. There was no material change in the symptoms till four o'clock in the afternoon, when he was suddenly seized with convulsive twitches of the whole body. There was no pain about the head, but he complained much of the lower part of his back, and at the same time became so restless that it was with difficulty he was kept in bed. He continued for two hours in this state, after which he lost his voice, and became comatose.

On the 25th, he remained perfectly insensible, even when sharply pinched; the pulse very rapid: the breathing not accompanied by stertor. He died at 4 P.M.

Post-mortem examination.—Some effusion of blood was found beneath the scalp, at the right and back part of the head. A portion of the inner table of the skull still remained slightly depressed in the situation of the injury. The dura mater exposed by the removal of the bone was covered with coagula of blood and lymph. The subarachnoid cellular tissue of the upper part of the left hemisphere of the brain presented in its structure an extensive effusion of seropurulent fluid; and the surface of the brain in the same situation presented two small patches of minutely injected vessels. The cells of the pia mater, at the posterior part of the left hemisphere, were occupied by a small quantity of blood. The ventricles of the brain were much distended by a clear transparent serum; and the lining membrane of the lateral ventricles was rough, and presented the appearance of having been dusted with very small white sand. The lungs were gorged with blood and frothy serum.

A tendency to cerebral disease, indicated by the condition of the pia mater lining the ventricles, may perhaps have had some influence in determining the fatal result in the last of the above mentioned cases. The circumstance, however, which was the principal cause of the very different progress and termination, and which produced such very dissimilar symptoms in the two instances, was, that in the first a process analogous to the adhesive inflammation supervened; in the second, the inflammation established was of the suppurative kind.

The results of the adhesive, as differing from other kinds of inflammation, are well described

by Mr. Bell, in his Principles of Surgery. "The adhesive inflammation," he says, "is not attended with fever, pain, redness, or swelling, unless in the most trivial degree." A gentle swelling, which indicates the fulness but strong and healthy action of the vessels, an adhering part must bear: this increased action of the vessels stands upon the same footing with the healthy action of a part in forming or supporting any part of the system." "Adhesion prevents inflammation: when parts adhere they enter into a healthy action; they are entire, and do not inflame."

The adhesive inflammation is most frequently produced when divided parts are brought into contact; but this condition does not appear absolutely necessary. A similar process may take place between the different divided parts on one side of a wound, although separated from the corresponding parts on the opposite side: the different textures involved in the lesion may become united to each other by lymph, which presents a barrier to the inflammatory action, and prevents it extending beyond the requisite limit. An instance is recorded in Mr. Guthrie's work on Injuries of the Head, in which a fracture of the base of the skull was accompanied by destruction of a portion of the brain. A cavity containing a transparent fluid was found in the situation of the injury, seven months after the occurrence of the accident. The parietes of the cavity were formed above by the substance of the brain, below by the dura mater lining the upper aspect of the petrous portion of the temporal bone. The two layers of the arachnoid had in this case united around the injury, and prevented the extension of the inflammation between them.

In the first of the above cases, supposing the existence of a fracture at the base of the skull as indicated by the symptoms, the very favourable progress of the case may be attributed to the parts around the injury having become united by adhesion, thus preventing any extension of the inflammation. In the second case, adhesive inflammation did not occur, and the inflammatory action extended itself for a considerable distance in the subarachnoid cellular tissue.

THE MILITARY STATISTICAL REPORTS.

To the Editor of the Medical Gazette.

SIR,

OBSERVING in your publication of the 12th July some remarks upon the medical branch of the army, in which the name of my friend Mr. Marshall has been mentioned, and being tolerably well acquainted with the circumstances to which you allude, I take leave to put you in possession of the following facts.

According to your observations, it would appear that you understand Mr. Marshall had been promoted from the rank of Deputy Inspector-General to that of Inspector of Hospitals, and that he had been awarded five shillings additional half-pay, as a reward for the assistance he rendered in the compilation of the Statistical Reports of the Army. Now, if my surmise be correct, I take leave to observe that you have been misinformed. Mr. Marshall received no step of rank on that account; and he draws not a farthing of half-pay more than his rank and length of service entitle him to.

In 1830 Mr. Marshall was promoted to the rank of Deputy Inspector of Hospitals, having at that time served about eighteen years as Staff Surgeon. For this step of rank he was indebted to the direct influence of Sir Henry Hardinge. Having been forthwith reduced to half-pay, he remained unemployed, much against his will, for a number of years. Towards the end of October 1835, he was placed on full-pay, Colonel Tulloch and he having been named to prosecute an inquiry into the sickness and mortality among the troops in the West Indies. Mr. Marshall and Colonel Tulloch were not selected for this duty from any personal favour, but simply in consequence of their having previously been engaged in the compilation of military statistics,—the former having been many years engaged in that interesting study, and the latter having published two excellent papers on the subject in question.

During the year 1836, Mr. Marshall left London, and was placed on the half-pay of the rank he attained in 1830; and he has not since been employed on full pay. I am unable to state exactly the cause which induced Mr. Marshall to retire in 1836, but I believe I may assert, that it was not on account of infirm health. One thing is certain, he received little countenance or encouragement in the execution of a very arduous undertaking; he did not even receive any addition to his lodging-money, to meet the extra expenses incident to a residence in the metropolis. This is no doubt a very small matter, but it is one of the many little circumstances that might be adduced, which were calculated to show that statistical investigations were not then held in high estimation; indeed, they have not yet attained their due value in some quarters. Although on half-pay, Mr. Marshall continued to render his friend Colonel Tulloch all the assistance which it was in his power to bestow; and this assistance has been uniformly acknowledged in the successive reports which have been presented to both Houses of Parliament. But so low is

the value put upon gratuitous or voluntary services, that I am not aware he has on this account received even the empty thanks of either the medical or military departments.

This is, however, not all. Mr. Marshall has been indirectly accused of claiming, along with Colonel Tulloch, undue credit for having converted the elementary details in the medical department into statistical reports. The absurdity of this charge sufficiently refutes itself. But it may be asked, to whom does the merit of making some use of the materials in the medical department belong? Regimental surgeons have great merit in collecting returns, and drawing up reports, which, however, in a detached state, may be of comparatively little value. Elementary statistical materials may be accumulated into masses, and hoarded so long, that they may become totally useless. Money itself has no value unless it be put into circulation. Having, I hope, undeceived you, in regard to the alleged reward given to Mr. Marshall, I will, for the present, abstain from entering upon any collateral topic.—I am, sir,

Your obedient servant,
"TRUTH."

Portsmouth, July 1844.

[God help us! it seems we get even less than we had imagined.—ED. GAZ.]

GREEK LEPROSY IN SARDINIA.

THE Sardinian government have lately been led to institute particular inquiries into the prevalence of this formidable disease in their dominions; the result of which is, that about 100 persons have been found labouring under the true leprosy. Dr. Trompeo, the reporter, states that the disease agrees, in its nature and characters, entirely with the Eastern leprosy. He is of opinion that it is contagious, and that it might be got rid of by entirely isolating the diseased.—*Giorn. delle Scienz. Med. di Torino*, Jan. 1844.

[We, for our own part, after much study of this subject, feel assured that Dr. Trompeo is wrong; that the true leprosy is not contagious, and that it would not be got rid of by isolating its unhappy victims. This idea of contagion under such circumstances is a remnant of ignorance and barbarism.—ED. GAZ.]

SMALL-POX IN THE METROPOLIS.

WE are sorry to announce the extensive prevalence or small-pox at this time among us. REVACCINATE, REVACCINATE, say we.

NOTICE TO CORRESPONDENTS.

Our esteemed friend and correspondent, Mr. Earle, will see by this day's GAZETTE that we have recovered and published his critical letter on Inflammation, which had gone astray for some short time.

BOOKS RECEIVED.

Quacks and Quackery. A Remonstrance against the Sanction given by the Government, the Press, and the Public, to the System of Imposture and Fraud practised on the Ignorant and Credulous in the Quackeries of the day; with Remarks on Homœopathy, Hydropathy, Mesmerism, Mesmero-Phrenology, &c. By a Medical Practitioner.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Gentlemen admitted Members on Friday, July 26.—W. Monsoll.—J. G. Grylls.—J. J. Littlewood.—G. W. Lillies.—R. K. Pierce.—R. Millar.—J. Sole.—G. Williams.—H. C. Lucas.—H. Edmonds.

APOTHECARIES' HALL.

Gentlemen who have obtained Certificates, July 25.—G. W. Lillies, Kenton.—H. Dixon, Henley-on-Thames.—O. H. Fox, London.—B. E. Holwell, Leeds.—A. Beardsley, Shipley, Derbyshire.—E. C. Hill, Bath.—H. W. Boxall, Brighton.—J. W. Littler, Deanery, Battle.—J. Godden.

MORTALITY OF THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, July 20.

Dropsy, Cancer, Diseases of Uncertain Seat	81
Diseases of the Brain, Nerves, and Senses	154
Diseases of Lungs and Organs of Respiration	208
Diseases of the Heart and Blood-vessels	26
Diseases of Stomach, Organs of Digestion, &c.	68
Diseases of the Kidneys, &c.	10
Childbed	11
Paramenia	1
Ovarian Dropsy	0
Disease of Uterus, &c.	7
Arthritis	0
Rheumatism	2
Diseases of Joints, &c.	5
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.	0
Old Age or Natural Decay	51
Deaths by Violence, Privation, &c.	19
Small Pox	37
Measles	24
Scarlatina	72
Hooping Cough	13
Croup	4
Thrush	12
Diarrhœa	40
Dysentery	8
Cholera	2
Influenza	0
Ague	1
Remittent Fever	1
Typhus	34
Erysipelas	8
Syphilis	0
Hydrophobia	0
Causes not specified	2
Deaths from all Causes	896

WILSON & OGILVY, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, AUGUST 9, 1844.

THE

LEPROSY IN NEW BRUNSWICK.

[Our readers will recollect the interesting report on this formidable disease by Mr. Skene, which we had lately the satisfaction of laying before them through the favour of the Director-General of the Army Medical Department. The subject has excited a great deal of alarm in Quebec, Montreal, and other commercial cities and towns on the shores of the St. Lawrence and elsewhere. As usual, the new disease has been regarded as contagious, and measures of precaution and quarantine, the establishment of lazarettos or leper-houses, and all the miseries of isolation from the rest of mankind enforced in regard to the unhappy sufferers from the disease, have been threatened. Dr. Boyle, of St. John (New Brunswick), has taken what we feel satisfied is the right view of this case; he sees no reason to believe that the disease is infectious, and is opposed to all measures of quarantine in reference to the districts where it prevails, as well as to the establishment of lazarettos especially dedicated to the accommodation of those who are labouring under it. We heartily concur with Dr. Boyle in all he has said, and in the views he has taken, and feel it both a pleasure and a duty to give currency to his ably written and soundly reasoned paper.—Ed. Gaz.]

Brief Remarks on "The Report" *laid before the Government of New Brunswick by the Medical Commission appointed by the Lieutenant-Governor to investigate the nature, causes, &c. of a disease termed Leprosy, prevailing in certain French Settlements in that Province bordering on the Gulf of St. Lawrence.* By Alex. Boyle, M.D.

A representation having been made to the Lieutenant-Governor of New Brunswick, that a disease of a highly malignant and loathsome nature, receiving the name of *Leprosy*, had been discovered among the inhabitants of certain French Settlements in the Counties of Gloucester and Northumberland, in that Province, a Commission, composed of four Medical Gentlemen and the French Clergyman residing in that district, was appointed for the purpose of investigating its nature and causes, and suggesting such measures as might be judged necessary for its prevention.—The Commission entered on this inquiry in March last; the result is now before the public; and a sum of £1000 has been granted by the Provincial Legislature, to enable the Government to carry into effect the measures proposed.

As they have "unanimously recommended the erection of a Lazaretto, the removal of the sick, and their strict seclusion in that establishment," as means necessary to guard against the extension of this malady, which they consider as not only hereditary, but *contagious*, I have been induced to examine some of the more prominent facts which they have brought forward in support of this opinion; with the view of determining how far it is expedient, on this occasion, and on the grounds exhibited, to have recourse to measures involving extreme hardship on individuals, and not devoid of injury to society, and which ought never to be adopted under the sanction of causes which admit of doubt;—and with what probability of success those measures are calculated to accomplish the end proposed.

It may, in the first place, be observed, that much confusion has been introduced into medical writings, in consequence of doubts respecting the disease to which the name of *Leprosy* more properly belongs; arising, as is supposed, from the inaccuracies of the translations of the Greek and Arabian authors who treat of this subject, and who have sometimes described, under the same title, three different affections, very distinct in character, namely, the Hebrew Leprosy, a scaly disease; the Elephant, or Barbadoes leg; and the "Tubercular" disease, now under consideration. It is, however, at present unnecessary to enter farther upon this subject, as the disease in question must be viewed under the aspect presented to us by the cases given in the "Report," where it is classed under this last denomination: and, as observations of *modern* date have removed much of the perplexity by which it was obscured, there is less difficulty in

assigning to each its proper place in nosological nomenclature.

The facts collected, and which form the subject of the official document, are interesting; and the cases are detailed with a degree of accuracy and clearness, leaving no doubt as to the existence of a disease which has all the characteristic symptoms of the "Tubercular Elephantiasis" of modern nosologists, the "Juzam" of the Arabians, and the "Lepra Græcorum" of the middle ages, by which its identity is fully established, and which, therefore, need not now be repeated.

It is stated in the "Report," that "no *positive* conclusion could be drawn as to its original appearance in this quarter;" but, that, according to the information that was received from the oldest settlers, the first case occurred in the person of Ursule Laudre, about the year 1817, nineteen years after her marriage with Joseph Benoit, of Tracadle, a small French settlement situated in a part of this Province, bordering on the Gulph of Saint Lawrence, and where she went to reside after her marriage. Her father, mother, and their children, *nineteen* in number, appear, with the exception of Ursule alone, to have been perfectly healthy. She was married about the year 1798 or 1799, and having been affected ten years *before* her husband, (for, it appears, he also became affected with it,) it would be absurd to suppose that she possibly could have received the infection from *him;* neither can we suppose that he could have contracted it from her, for he continued free from it until three years before her death, which happened in 1829; a period of twenty-six years after their marriage, and of his having lived with her about ten years *after* she had shewn all its unequivocal symptoms. After the birth of her fifth child, Ursule ceased to bear children; and it is stated that, from that time, her health continued to decline for six or eight years, when the disease was no longer doubtful.

Upon the whole, other facts stated in the "Report" are not more favourable to the existence of *contagion* as a cause of this disease, than those already mentioned; for, it is not shewn from whom Ursule received the infection, nor is it proved that she communicated the disease to any one, either by direct contact or through the medium of substances imbued with a contagious principle. There is, indeed, no sort of analogy, as far as those facts go, between this disease and those of a contagious nature; in most of which, we can, almost, as it were, detect the contagion in its passage; and it is only by analogy we can reason on the subject. The latent period in contagious diseases is never long—being only two or three days, sometimes less, and seldom exceeding three weeks; whereas, in the present instance, several years of continued intercourse intervened from the first communication with the infected person to the time of its appearance in the individuals exposed.

As it is admitted by all that "Tubercular Elephantiasis," or the Greek Leprosy, as it is sometimes called, is an *hereditary* disease, and, like Scrofula, may pass one generation and appear in the next, when concurring causes favour its development, the taint in one of the nineteen children of Laudre *père* (Ursule) may have been derived from a source to which, at this distance of time, it cannot perhaps be traced; and the case of the only *one* of her five children who was affected must be referred to the same category; while the exemption of the other four, though living in continual intercourse, completely overturns the doctrine of *contagion*, and is in perfect analogy with the facts observed in scrofula and other diseases which are transmitted from parents to their posterity, affecting some and sparing others, according to circumstances not often very evident or easily explained. The case of Frances Savoy is not less decisive. She has a family of six children, and only *one*, a boy of eight years of age, is affected. She herself has had the disease four years and a half, in a severe form; "her husband sleeps with her every night, and is in perfect health." P. Savoy's case is a severe one. He has a wife and four children, but all of them are apparently healthy. The case of T. Robicheau bears equally on the same point. He is about fifteen years of age, and has been affected six years; and his uncle was recently carried off by it; marking, decidedly, *hereditary* transmission in that family.

It must, indeed, attract particular notice, as a singular feature in the "Report," that, as regards *contagion*, so many of the facts related militate strongly against the conclusion which has been deduced from them on this important question.

The affected district is situated between the Bay of Chaleur and Miramichi River, and the intercourse between it and Canada, Prince Edward Island, Nova Scotia, and the adjoining counties of New Brunswick, has been frequent and uninterrupted; and though the disease was known to have occasionally existed in some parts along the Gulf shore at a date anterior to that assigned to it in the "Report," it had not, it would appear, been propagated to any of the above-named places, nor been considered of that importance, or so frequent at the time, as to attract particular notice, or excite any serious alarm; and it is only now, though twelve cases terminated fatally, and, as appears by the "Report," after it had prevailed in Tracadie for a period of twenty-seven years, that the attention of the legislature has been called to it as fraught with public danger, and requiring rigid measures of prevention.

That the original source of the disease is

to be detected in any geological peculiarity observable in the tract of country above mentioned, is not very probable; atmospheric causes are temporary, though general in their operation, giving to diseases an epidemic character; and the climate and cultivation of the soil, if not much improved, certainly are not deteriorated. The habits and mode of living of the French inhabitants in that part of the Province of New Brunswick, it may also be remarked, have always been pretty much the same since its first settlement with those in other parts of British North America, except that the fish which constitutes almost their sole article of food is not, perhaps, of the same wholesome quality as among some of their neighbours, owing to their povety, which often prevents them from procuring the means necessary to preserve it for use. Some further facts, therefore, are wanting, to render our conclusions as to the primary cause of its appearance in that locality satisfactory; and it is to be regretted that it could not now be traced further back than the case of Ursule Laudre, in 1817.

The inhabitants of this district are of the Norman race, and descended from those Frenchmen who visited North America at a very early period of its settlement; and by whom, it can scarcely be doubted, the disease was brought to this part of the world; and the superb structure erected by Henry II. Duke of Normandy, at Caen, in 1160, for the reception of lepers, (but long since appropriated to another use,) attests to this day the prevalence of the disease, in former times, in that country, where it had been, in a manner, naturalized since the time of the Crusades. It is of no small importance, therefore, as tending to throw a ray of light on this part of the inquiry, to know that Ursule's father was an "Acadian," that her mother was of "Caraquette," in the Bay of Chaleur, and her husband from "Tracardie," on the Gulf Shore: for it is also known that the *Baie de Chaleur* and the north-east shores of *Acadie* were places where those adventurous navigators first encountered perils; and the disease may have even disappeared for a season, and at different periods from that early date sprung up again among their posterity, who appear still to inherit the original taint.

From the facts stated, it does not appear what has been the total number of cases from the year 1817, until the present time, although nineteen "*confirmed*" cases were found at the time of their visit; a proportion not exceeding, perhaps, that of any other disease, acute or chronic, which has appeared in this district during an equal period, reckoning from the average duration of the cases recorded in the Report; and it might, perhaps, be also ascertained that the deaths from any one of them were not less numerous than those from leprosy, which, as far as we are informed, amount to twelve.

Having thus taken a brief review of the principal data furnished by the Report, and on which the Commissioners found their opinion as to the *contagious* character of the disease, which alone could warrant recourse to the seclusion of the affected, and the adoption of Lazaretto regulations and restrictions, it may not be deemed unprofitable or uninteresting, in a question which so deeply involves the comfort and safety of a large portion of society, to quote some *modern* authorities of the highest weight in the medical profession, in support of the opposite doctrine or *non* contagious nature of this loathsome disease, which is universally acknowledged to be *incurable*.

In an article in the "Dictionnaire de Médecine et Chirurgie Pratiques," by Bouillaud, vol. 5, p. 425, he says, "La contagion a été admise par certains auteurs dans une foule des cas où elle n'existe réellement pas. Quel est le médecin observateur qui ajoute foi maintenant à tout ce qui a été debité, par exemple, sur la contagion de la Lepre, &c." And again, vol. 5, p. 435, when speaking of isolating the sick and of sanatory cordons, he expresses himself thus: "Les attaques dont cette mesure sanitaire a été l'objet dans ces derniers temps paraissent bien fondées, et le moment n'est peut-être pas eloigné où elle sera completement abandonné." To this effect, also, in an article in the same work, vol. 14, p. 19, by Ch. Londe, when speaking of the instructions relating to Quarantine, he says, "La Lèpre arrive, dans *les Instructions*, en quatrième ligne; mais parmi les gens qui ont bien observé cette maladie, aucun aujourd'hui ne croit plus à sa propriété contagieuse; les dispositions atroces prises contre les lèpreux sont tombées en désuétude, et ces malades sont admis parmi les autres dans nos hôpitaux, sans que jamais on se soit aperçu de la transmission de leur affection."

In a paper in the Cyclopædia of Practical Medicine, on "Contagion," by Dr. Joseph Brown, we find the following remark:— "There are two other diseases which were *formerly* considered contagious, Lepra Græcorum and Lepra Arabum (Elephantiasis). The former is unquestionably not contagious; and from the observations made by the late Dr. Adams in the Lazaar house at Funchal, there is every reason to think the latter equally devoid of that quality."

Numerous authorities* might be quoted to the same purpose, but the above are conclusive; and the proofs of *hereditary* transmission are not less clear and cogent.

Various external causes have been mentioned as producing this disease; and there

*Rayer, Bateman, Alibert, Robinson, T. Heberden, Ainsley,

is a general assent as to the agency of bad food, especially putrid fish, and vicinity to the sea shore. There is, however, in many instances, the greatest difficulty and uncertainty in accounting for its appearance; and the above, like those of a moral nature, of which a remarkable instance is recorded by the celebrated Alibert as coming under his own immediate care, (Precis, &c. vol. 2, p. 84), it is presumed, act chiefly by awakening a latent hereditary predisposition, and it must be confessed some cases baffle all conjecture. The testimony of Sonini and Pallas is referred to by the same author as opposed to the doctrine of *contagion*.

Having myself seen, some years ago, a well-marked case of this disease, which leads to conclusions in perfect accordance with the opinions of those eminent men, I may be permitted, in this place, to bring it under notice. It occurred in a person about thirty years of age, a native of Antigua. He had laboured under it for a considerable length of time, and came to Nova Scotia for the benefit of his health, where he married an interesting young lady, about two years before I saw him. After this he came to St. John, and was under the care of Dr. Boyd and myself for about two months. His breath was extremely offensive, and his hands, face, and legs were covered with blotches and tubercles of a livid, brownish colour; and some of them were in a state of ulceration. He afterwards went to New Orleans, in a worse state than when he first left the West Indies; and died of this disease not long after his arrival. During the whole period of his illness, from the time of his marriage, his wife was most assiduous in her attentions to him, and occupied the same bed; but neither she nor any of the inmates of the boarding-house, where they lodged for nearly twelve months, and with whom they had daily intercourse, ever shewed the least mark of the disease. He had no children; and after his death his wife returned to Nova Scotia, where she has continued to enjoy perfect health.

In the course of the above remarks I have purposely abstained from all opinions respecting the operation of contagious miasmata, or the manner of their introduction into the blood, as foreign to the object of the present inquiry; and as chemistry has hitherto thrown but feeble light on the nature of their elementary constituents, or the changes they effect on the circulating fluids.

Several important organs undergo a morbid alteration of structure during the progress of this disease; but as its pathology is unconnected with the question at issue, it need not now engage our attention.

It is generally admitted that pulmonary consumption is, according to the common acceptation of the term, an hereditary disease, usually developed by the action of exciting causes. In some countries it is also deemed contagious; and the houses which have been occupied by persons who die of this complaint are always left deserted. In New Brunswick its occurrence is very frequent; and, though not deemed contagious, it may certainly be pronounced incurable. So far, the parallel between it and leprosy is strictly correct; but surely it would not be recommended that those persons labouring under pulmonary consumption throughout the province should be torn from their families and left to die in a lazaretto; nor can it be imagined that any such measure would be proposed to prevent the continuance of so great a scourge of the human race; as it is sufficiently evident how fruitless the attempt must be, by the removal of a few, to arrest the progress of a disease whose germ, unhappily, is but too widely spread among mankind, and whose extinction is beyond the reach of legislative power.

During the prevalence of the Asiatic cholera in Europe, erroneous opinions regarding its contagious character led to the adoption of similar measures of prevention; but experience has since taught us how useless and unnecessary they were, and how injurious to the interests of society; and the novelty of the disease among us, and its still inexplicable nature, afford the only vindication of the course pursued during that period of general consternation. In no part of Europe was leprosy so prevalent at one time as in France, from the eleventh to sixteenth century. It is now chiefly confined to the tropical and equatorial regions, being rarely met with in Europe since the seventeenth century; and the advanced and more refined state of society accounts for its gradual disappearance; while greater experience has banished all dread of its supposed contagion, and opened their noble hospitals to the admission of lepers, without distinction, among other patients; and numerous lazarettos of great extent have long been converted into retreats for the aged and infirm, or like purposes of general philanthropy and benevolence.

I trust it will appear, from what I have said, and the authorities I have referred to, that any measures of prevention which require seclusion of the sick, much less the severity of Lazaretto regulations, are not warranted, on this occasion, by the facts on which their adoption is grounded; and as their uselessness and impolicy have nearly expunged them from the code of civilized nations.

The formation of any hospital *exclusively* for the reception of leprous patients is also objectionable, as entailing an endless expense on the Province; especially if County Hospitals already exist, or similar establishments, into which, as experience has abundantly shewn, they may be received

without the "remotest injury to other patients; and of which the "Report" itself furnishes ample proof. The disease being incurable, little good is to be expected from hospital treatment; which, at best, could only be palliative. Much, however, may be done to obviate some of the causes which render the human body liable to various diseases arising from noxious emanations, as well as from atmospheric influence and hereditary predisposition, by inculcating the necessity of a proper hygiene throughout the French population of that district; by which the constitution may be enabled to resist the influence of external agents; and without which, it is to be feared, the disease will finally cease only with the extinction of the race.

With this view, inquiry should be made by the clergymen of the district to which the disease is confined, into the habits and means of subsistence of the several families under their pastoral care,—their occupations, their clothing, their ordinary food, and the state of their habitations; and according to their age, sex, and number of children, such pecuniary aid should be given as would relieve their wants, stimulate their industry, and, not less important, dispel despondency and grief, by shewing them that a general interest had been awakened in their favour, and that the present evil was not altogether beyond the reach of relief. The appropriations of money from the public purse for this humane and benevolent purpose should, for obvious reasons, be entrusted to the hands of the Roman Catholic Bishop of New Brunswick and the Pastors of the district; to be distributed at their discretion and responsibility, rendering an account of the disbursements to the Executive Government of the Province, which alone should have power to control them.

OBSERVATIONS ON FRACTURE OF THE PELVIS;

WITH A CASE.

By W. Lyon, Esq.

Lecturer on Surgery, and lately one of the Surgeons of the Glasgow Royal Infirmary.

(For the London Medical Gazette.)

Fracture of the pelvis; laceration of the bladder; extravasation of urine; death. General observations on fractures of the pelvis.

Francis Smith, aged 14 years, carter, admitted into the Glasgow Royal Infirmary at 2 P.M. of Dec. 28th, 1843. About an hour and half ago, while the patient was in charge of a horse and cart, the horse took fright, and suddenly darted forward, when the patient, in attempting to restrain him, was forcibly pressed between the cart-wheel and a large stone. He now complains of very acute pain over the whole of the abdomen, stretching down to the perineum, which is much swollen and ecchymosed. The right leg is abducted, and the toe everted. No motion or crepitation can be elicited in the bones of the pelvis by gently pressing them laterally, or in the anterior and posterior directions, or by alternately pushing up the one and drawing down the other limb. Skin cold; pulse scarcely perceptible.

> A catheter to be introduced; warmth to be applied to the surface, and small quantities of some stimulant to be given from time to time; warm drinks, spirits and water, &c.

29th.—Has not rallied from the state of collapse, though he has had half an ounce of whisky every hour. To-day he has had constant vomiting, and increased pain in the abdomen and perineum; the perineum is more swollen than it was yesterday. Pulse 120, and with difficulty to be felt. The introduction of the catheter was not attempted last night, as ordered: it was tried this morning, and failed: the attempt was repeated to-day, but without success. A free incision was therefore made into the right side of the perineum, when a large quantity of bloody urine escaped.

> To have turpentine fomentations to the abdomen, and an ounce of whisky every hour.

On the 30th the pulse had fallen to 96, but was still exceedingly feeble. The abdominal tenderness continued; urine was freely discharged from the wound; thirst urgent, and vomiting incessant.

> He was ordered an enema; a grain of calomel every second hour; Prussic acid mixture; and a continuance of the fomentations.

Next day the pulse had become firm, and the skin warm; the vomiting had ceased. The abdominal tenderness was undiminished, and the bowels were unmoved, although the patient had taken an ounce of castor oil.

> The oil to be repeated; the calomel to be used every hour. A blister over the abdomen. The whisky to be omitted.

The reaction was maintained for two days; six leeches were applied; the tenderness diminished, and the bowels were moved. The abdomen then became tympanitic; the pulse and strength gave way; and the patient died on the morning of Jan. 3d, about five days after receiving the injury.

Inspection. — Much ecchymosis on mesentery, mesocolon, mesorectum, &c., and also under the pelvic fascia. Peritoneal coat of intestines in some parts injected; soft parts of perineum completely disorganized, and a small opening existed on the right side of the bladder, a little behind its neck. The pelvis was found to have suffered great injury; the right acetabulum was much broken up, and the os innominatum separated from the ischium at the line of junction in the acetabulum, to such an extent that the head of the femur could be felt from the inside of the pelvis; so that I rather think the acetabulum must have communicated with the cavity of the peritoneum. The ossa pubis of right and left sides were fractured in their horizontal rami, immediately anterior to their parts of connection with the innominata. On the left side the fracture was comminuted, and several of the pointed fragments were directed internally. On the right side, the sharp extremity of one of the fractured pieces projected forwards and inwards, and had entered the antero-lateral aspect of the bladder, making an opening into that sac about the size of a common bean. The ischium of each side was fractured at two places, one of them being in the ramus, just above the tuberosity, and the other where the rami of the ischium and pubis unite. A fracture also extended from the upper to the lower part of the sacrum, on the right side, in a line through the foramina which transmit the sacral nerves.

The fractured portions were all considerably displaced, the lateral diameter of the pelvis diminished, and the pubes thrown forwards, causing a close resemblance to the form of antero-posterior pelvic distortion; and produced in this case by the pelvis being compressed laterally by the pressure of the cart-wheel on the trochanter of the one side, against that of the other, resisted by the stone, the pressure extending through the trochanter, by the heads of the femora in the acetabula.

This case afforded an illustration of one of the most usual causes, and of the ordinary symptoms and consequences, of a severe pelvic fracture: the violence which produced it was extremely great, the diagnosis obscure, and the result fatal. Portions of the crest and ala of the ileum may be broken, without the consequences being important, although they sometimes are: of such injuries I have seen several cases; but their detail would neither interest nor instruct. The parts mentioned are so prominent, that comparatively slight forces may fracture them. Not so with the body of the pelvis, which, from its circular form, resists all but very powerful pressure; and the same force which fractures it is often sufficient at the same time to lacerate some one of the numerous and important organs which it contains, or to wound them by driving in the fractured portions, which are frequently pointed and sharp.

The blood-vessels*, the nerves, the peritoneal cavity, the bladder, the rectum, have severally, in cases of this kind, been found lacerated or punctured. In the case forming the subject of this paper the bladder only was wounded; but some of the blood-vessels narrowly escaped; the horizontal rami of both pubes being broken into numerous fragments, the sharp spiculæ of these were thrown up directly under the external iliac arteries and veins, in their passage from the pelvis into the groins.

Considering the thorough breaking up of the pelvis in the case narrated, it may excite surprise that mobility and crepitation of the fragments were not observed. One reason for this was, that such force was studiously avoided as would have been requisite to occasion crepitation, or to produce sufficient extent of displacement to have made unnatural motion evident; for the attempt, in fracture of the pelvis, to make the usual signs of fracture unequivocal, may either cause, or increase laceration of, or may push, or farther insert the extremities of the fragments into the peritoneal sac, urinary bladder, rectum, or blood-vessels, and therefore more than very gentle careful examination is replete with danger.

There was another reason for the obscurity in this case, which is common to a large proportion of similar injuries,

* Mr. Earle, Med.-Chirurg. Transactions, vol. xix. p. 263.

and which points out the mode of examination which should be practised for their detection. The fracture that ran through the sacrum was not complete; that is, there was not separation of the fractured surfaces, so as to give capability for much motion; the bone had been only bent or verged over, so that, although the circle of the pelvis was destroyed in front, the two posterior thirds partially retained their normal form, and either did not move at all, or only very slightly, by the pressure which was applied alternately to the ilia by the hands placed on the spinous processes, and to the acetabula, by raising or depressing the limbs. Again, owing to the depth of the fragments from the surface, and possibly also from the blood extravasated between their surfaces, the fractures of the pubes and ischia were not recognised by pressing over the brim of the pelvis anteriorly. These particulars are of importance as shewing that the absence of motion sufficient to be noticed, and to make crepitation observable, is not incompatible with the existence of serious and extensive fracture, and that therefore in suspicious cases we should not only seek information by gentle attempts to rub the fractured surfaces together, by alternate pressure of the fingers upwards and downwards round the entire upper and lower lines of the pelvis—attempts at elevation, depression, and anterior and posterior motion of the ilia—but should try to obtain further information by inserting the finger into one of the outlets of the pelvis, and carefully exploring all parts within its reach: had such been done in this case, I have no doubt but some of the fractures would have been discovered.

The *abduction* of the right leg, and the *eversion* of the toe, consequent on the change of relation of parts within the broken-up acetabulum, were not in this case likely to mislead by inducing a belief of fracture of the neck of the femur, the more especially as crepitation was not observable: and the normal, or nearly normal length of the limb, though it was abducted, dissipated all suspicion of dislocation into the foramen ovale, a case where, of course, the limb is in addition longer than its fellow.

Where the separation of the fragments has been greater than in this instance, permitting the head of the femur to sink inwards, and rub on the fractured surfaces, the diagnosis has been somewhat obscured. In such circumstances the existence of crepitation, the eversion of the toe, the shortening of the limb, the diminished arc in which the rotated trochanter would appear to move, its altered position, and change as to performance, are all symptoms common to fracture of the neck of the femur; but in the latter injury the specified conditions exist in greater degree, especially so the shortening, while in breaking up of the acetabulum, the trochanter, in place of being more, as in fracture of the neck of the femur, is less than normally prominent*: the mode of reception, and the presence or absence of considerable shock, will aid the diagnosis. I have a preparation in which about a third part of the superior portion of the acetabulum is broken off and detached, permitting the head of the femur to slip up and occupy the place of the fragment. Of this preparation I have not any history, but from there being partial dislocation combined with fracture, there must have been a mixing up of symptoms which would have made a correct diagnosis very difficult to be arrived at.

A somewhat similar state of parts, but allowing complete dislocation, must have existed in a patient I had some years ago with dislocation on the dorsum ilii: the dislocation was easily reduced, but as the man had no proper home he was after the reduction carried to the hospital, where the attending surgeon satisfied himself that all was right. After a few days the patient rose to walk, and felt something give way in the injured joint, which became painful. On now measuring the length of the limbs, the injured one was found shortened, and remained so, and no doubt the shortening was occasioned by a portion of the superior part of the acetabulum having been detached when the femur was dislocated; this was replaced at the time of the reduction, and again slipped upwards when the weight of the body was thrown on it by the head of the femur in walking.

These cases are not in strict connection with breaking up of the acetabulum, where the head of the femur sinks more or less inwards between the fragments, and thus, as already described, is apt to be confounded with

* Mr. Earle, Med. Chir. Trans. vol. iii. p. 251-3.

fracture of the neck of the femur; and I have only introduced them here for the purpose of drawing attention to the difficulties in diagnosis which may arise from the complicated injuries to which the parts composing the hip-joint are liable.

Though the existence of fracture was not rendered evident by examination in the case giving rise to the present remarks, the mode in which the injury was received, combined with the intensity of the symptoms, made the nature of the injury strongly suspected; and therefore, to prevent the dangers which are common in fracture of the pelvis from penetration of the bladder by fragments, and consequent extravasation of urine, the insertion and retention of a catheter were ordered. The introduction of a catheter was neglected until it could not be accomplished; and though it had been passed, it was too late to obtain all the advantages that belong to the practice when instituted early: it was delayed until the extravasation of urine had broken up the tissues in the pelvis and perineum, occasioning all its serious local and constitutional injurious effects; displacing the urethra so that the ordinary direction of the canal could not be followed, and necessitating the only remaining resource, the free incision into the perineum, from which immediate relief was experienced.

The wound in the bladder was here below the point of reflexion of the peritoneum, and therefore the urine was prevented passing into the pelvic cavity, and made its way through the wound in the pelvic fascia and levator ani to the perineum. Even here the risks were greatly increased by the extravasation; where the wound of the bladder opens into the peritoneal sac, the passage of urine into it is certain to occasion death. And as in severe injuries of the pelvis, although positive proof of fracture be wanting, we cannot be sure that the bladder may not have suffered, the catheter should always be used as a preventive of extravasation of urine, not as a remedy for it.

The deep depression caused by the extent and severity of the lesions, and the blood extravasated into the folds of the peritoneum, necessitated the use of stimulants, which, however, were interrupted the moment reaction occurred. Calomel was likewise exhibited, on the supposition that the intense pain in the abdomen indicated peritonitis; but the absence of effusion and adhesion renders that conclusion doubtful. Had the patient been carried over the period of shock, we have proofs, from histories of somewhat similar instances, and from somewhat analogous circumstances in fractures of the cranium and ribs, where the danger arises secondarily from implication of the contained organs, that inflammation, and possibly suppuration, would still very probably have destroyed him. Indeed, we can scarcely conceive that recovery could have been effected where there were combined extensive fracture entering both hip-joints, running in immediate contact with the sacral nerves, in close connection, probably communicating, with the excitable peritoneum, the bladder punctured, and, nearly as bad as any of these, but which might have been prevented, the depressing and destructive influence of extensive urinous infiltration*.

With a view to prevent motion of the fragments, almost all authorities recommend the fractured pelvis to be surrounded and compressed by a belt or bandage. Now, upon examining the pelvis, which I possess, of the patient whose case forms the subject of this paper, and reflecting on fractures of the pelvis generally, I cannot avoid thinking that the practice of applying compression is generally highly improper. We can imagine a case in which, from the surfaces of the fractured bone being perfectly transverse, compression would hold the portions together. We can seldom, however, recognise such a particular state with certainty, and where there is any obliquity of the fractured surfaces, or there is fracture at more than one point, so as to permit motion of the portions, it is evident that compression by a bandage must have all the prejudicial tendencies of pressure during examination, a practice already reprobated; that must throw in the extremities of the fragments, generally sharp, and often, as in our case, pointed; bandaging, therefore, should, in our opinion, rarely — we had almost said never — be employed.

There are, however, two conditions which, if present, might justify the trial of a bandage round the pelvis — the absence of any discoverable dis-

* See cases of recovery from very severe, but not equally severe injuries as this, by Mr. Earle, in Vol. III. of Medico-Chirurgical Transactions, p. 249.

placement, and a feeling of comfort, a relief from pain, when the pelvis was compressed or supported: the one of these it is difficult, if not impracticable, to ascertain, and in using pressure to determine the other, we may cause the very danger we seek to avoid.

It would be a practice more in consonance with reason and observation to use measures of an entirely opposite description; to attempt to expand the often narrowed pelvis, and to extricate the extremities of the driven in fragments from the important contained tissues and organs, by making moderate pressure upon the anterior superior spinous processes in a direction outwards and backwards; or to produce a similar effect by gentle extension in opposite directions from the highest points practicable of the heads of the femora. On a similar principle, if a case were presenting where there was reason to believe that there was fracture of the pelvis into two or more portions, which were driven in, and passing each other, by placing a pillow between the thighs close to the perineum, and retaining the limbs extended and bandaged firmly together, so that the pillow should serve as a fulcrum on which the thighs acted as levers, the fragments might probably be thrown and kept out in their proper positions.

It is possible to conceive fragments of such form, and so situated, that the method above recommended would cause them to produce laceration or puncture, or to increase such injuries if they existed; or that it would separate fragments further, or throw in spiculæ tearing or puncturing the soft parts inside of the pelvis*; but such cases must be rare, and the practice, if carried out with any regard to caution, is at least safe, when compared to the opposite method of forcing the fragments further in by compressing with the hands or a bandage round the pelvis. But of course the pelvis may be fractured at any point, and there must be many instances where the ilia, though fractured, are not displaced; many where the ischia or pubes are fractured and displaced, the ilia remaining intact; and in each of these supposed cases no advantage would be gained by acting on the ilea as I have recommended. If, however, it be kept in view that in fractures of the pelvis, if there be displacement, the fragments are almost always driven *inwards*, and are frequently loose, it will be apparent that the usual practice of surrounding the pelvis with a bandage is irrational and dangerous, and should yield to the generally, though not universally, beneficial principle of using means to throw out, and keep the broken portions of the pelvis expanded.

Supposing a fragment to have entered the bladder, the likelihood of which will be a good deal influenced by the full or empty state of the viscus at the time of the accident, or to be so displaced as to puncture the urethra, on the former supposition, the bladder, when it contracts, will in all probability withdraw itself from the fragment, and the urine escape by the urethra, or from an incision; if the case otherwise proceeds favourably, the wound in the bladder will soon heal, and the urine escape by the natural channel.

In the latter circumstance, that is, where a fragment punctures, or presses on, the urethra, by making attempts to carry out the fragments, and expand the pelvis; or, on the same principle, by pressure directed upon them within the pelvis, through the parietes of the vagina, or rectum, as the case may be; the passage of the retained urine through the urethra, or from an incision, or by the introduction of the catheter, will be almost always practicable, and will supersede the difficult, painful, and by conversion of a simple into a compound fracture, the dangerous recommendation of the justly celebrated Boyer, in whose work, which even now is probably the most able, comprehensive, and yet minute treatise we possess on fractures, we are advised, in the conditions above stated, "to cut down upon and extract the fragments*."

The conversion of a complicated fracture into a compound one, we do indeed generally cause, when we incise on account of extravasation of urine in

* See particulars of a case where my proposal (if injudiciously employed) might have been injurious. Cooper's Surgical Dictionary, article Fracture of Pelvis. Ed. 1838.

* Si l'on reconnait des fragmens dont le deplacement et l'enfoncement dans les parties voisines causent des accidens graves, comme par exemple, une esquille des pubes ou de l'ischion, qui serait enfoncé dans la vassie, ou dans le canal du l'urethre, en general, on empecheroit totalement l'emission de urine, si l'on ne peut parvenir à operer la reduction, *par des manœuvres qu'il est impossible de decrire*, on ne peut se dispenser de mettre les esquilles, de decouvertes par l'incision des parties molles.—*Mal. Chirurgicales*, tom. iii. 156-7.

fractures of the pelvis; for in that case we lay open the injured part of the bone to the access of the atmosphere; this, however, is often unavoidable, and forms no argument in favour of the procedure recommended by Boyer, which we believe is more suppositious than the result of actual experience.

If it be conceded that from the mode in which fractures of the pelvis are generally received, the fragments, if displaced, are usually *beaten in*, the pelvis being narrowed, the principle is, I think, established, of attempting to widen the pelvis, or throw out the displaced portions by pushing out the ilia, as described, and carrying a finger or fingers within the cavity of the pelvis, feeling for any projections, and making a careful attempt to replace them. Beaten-in portions will not always be within reach of the fingers; expansion of the ilia will not always be required, or be effective; the fracture not always oblique, or the fragments pointed; displacement of any kind will frequently be absent, the fragments being held together by the mingled periosteum, muscles, fascia, &c.; but as a general rule, attempts to widen will be less likely to injure, and will more probably be advantageous, than compression, so commonly, and irrespectively of all conditions, advised.

Such we would suppose the proper principles of treatment, in whatever part of the pelvis the fracture exists, if there be displacement; and we have now to inquire what will be the best procedure after adjustment, or in those cases where, from the first, displacement could be detected.

The principal indication evidently is to keep the fragments at rest, which diminishes the risks of inflammation or puncture, tends to prevent inflammation and its consequences, and affords facilities for inducing and perfecting the processes requisite for ossific union.

But as we propose to discard, in all but a very few cases, the use of the belt or bandage around the fractured pelvis, the means hitherto principally relied on for keeping the injured parts in a state of repose, and as it is to be feared we do not possess any substitute for the supposed influence of the bandage, other than perfect quietude, we have to inquire what are the sources of motion in fracture of the pelvis, and how they may best be obviated. In addition to those already dwelt upon, there are three causes of disturbance in cases of this kind; the gravity of the body and limbs, which acts more or less injuriously according to the position assumed; the action of the muscles arising from or inserted into the pelvis, a cause of disturbance which I have not hitherto alluded to; and, thirdly, direct motion, occasioned by change of posture in defecation, or to diminish the pain and other effects of long confinement in one position, &c. &c.

Fractures at different points of the pelvis, and running in different directions, are variously affected by position, and consequent gravity; probably the best guide for the posture which, in any given case, will combine the greatest advantages—which will best avert the influence of the weight of the limbs in dragging, or that of the pelvis and trunk in depressing, loose portions of the pelvis, upon any part of it resting on the bed—is that in *which the patient feels easiest*, as thereby we are shewn that then the fragments are not displaced, or that they are displaced and puncturing, straining, or lacerating the soft parts in the smallest possible degree. We would therefore allow the patient to recline on his back, or on either side, with the body and limbs flexed or extended, according as he felt most ease in the one or the other of these positions.

Rest and position of the fragments must likewise be much influenced by the active and passive contraction of the numerous powerful muscles of the trunk and limbs which arise from, or are inserted into, almost every part of the pelvis externally; while these are, in addition, assisted by muscles passing from the inside to the limbs, and by the strong levator ani lining the pelvis. and the other muscles more particularly pertaining to the organs of generation. The same remarks apply to the effects of muscular action as to those of gravity: they will indefinitely vary, according to the situation and direction of the fracture, its displacement, &c.; and although it cannot be feasibly doubted that the greatest amount of relaxation, in the greatest number of the muscles causing displacement and motion, is obtained in the state of semi-flexion, with the pelvis carried forward on the trunk, and the limbs on the pelvis, yet, for reasons similar to those we gave in relation to gravity, we would, on this

point too, be entirely led by the feelings of the patient, and would place him in the manner in which he obtained the *greatest degree of comfort.*

There will, if we have reasoned correctly, be many patients who will recline with most ease on one or other side, in the semi-flexed position; there will be others who will have most comfort reclining in the same posture on the back; and in the latter case, whether to counteract the effects of gravity or muscular action, we do not know of any contrivance equal, independently of its other recommendations, to the triple-inclined plane, or fracture-bed, of Mr. Earle; to which the body resting upon a common mattrass, and the limbs of the patient supported on a double inclined plane, such as that used in fracture of the femur, makes a near approach.

An equally difficult point to accomplish as the prevention or diminution of motion, is to preserve the skin from the effects of the long-continued pressure which the protracted confinement necessitates. In attempting to keep the patient perfectly at rest, we here, as in fractures of the vertebræ, run the hazard of inducing sloughing, and consequent ulceration, of the soft parts on which the weight is principally borne; but the hazard of sloughing is not so great in this description of injury, as the nervous agency is not necessarily or usually impaired, which, from the sloughing occurring only in the paralysed parts, is evidently its cause in fracture of the vertebræ accompanied by paraplegia.

Softness of the material on which the patient reposes is only beneficial by diffusing the superincumbent weight equally, and thus reducing it to its minimum over each point of the surface exposed; and this cannot better—cannot so well—be accomplished by any plan, as by placing under the pelvis, and other parts, if required, *a partially filled air pillow.*

To prevent the necessity for straining to expel the fæces, in which action the contraction of the muscles of the trunk, and those on the outside and inside of the pelvis, is strongly exerted, and motion and displacement produced, the exhibition of the gentlest laxatives will be proper; and the introduction, when the patient is about to evacuate the bowels, of a piece of cloth impermeable to moisture, for a short way between the nates and the air pillow, will supersede the painful, troublesome, and injurious method of Boyer, who, for this purpose, recommends a girth to be carried below the pelvis; its extremities brought up in front, attached to a hook, and that again, by a rope, to a pulley fixed in the ceiling; and thereby the patient, he says, is enabled to elevate and suspend himself until a vessel can be properly placed and the bowels evacuated.

It is not my purpose to enter into the treatment required for the inflammation, suppuration, and extravasation, of blood, of urine, &c., so frequently accompanying fracture of the pelvis; and I will only remark that, in the employment of the antiphlogistic measures which may at first appear to be called for, we should not lose sight of the copious discharge, the hectic, and debility, which may supervene; and that here, as in compound fractures, and some other kinds of cases, we are placed between two imminent dangers; on the one hand, the advance of inflammatory action, and in averting that, the risk, on the other, of unfitting the patient to bear up against the exhaustion of suppuration, its attendant evils, and a protracted confinement.

EASTERN DISTRICT
OF THE
ROYAL MATERNITY CHARITY.

TABULAR VIEW OF THE CASES ADMITTED FROM JAN. 1, 1831, TO DEC. 31, 1843.

To the Editor of the Medical Gazette.

SIR,

I HAVE thought it would be convenient to your readers to have, in a condensed and tabular form, the leading particulars embraced in the Reports of the Eastern District of the Royal Maternity Charity, which you have done me the honour to publish; I therefore inclose them for your use, if you think proper. I would refer to the MEDICAL GAZETTE for Jan. 31, 1829, for a summary of the chief difficulties that occurred in the same district of this Charity, from Jan. 1st, 1820, to Dec. 31st, 1827, during which period 19,439 women were delivered.—I am, sir,

Your obedient servant,
FRANCIS H. RAMSBOTHAM.

14, New Broad Street,
July 24, 1844.

Years.	Number of Deliveries.	Plurality		Sex;		Presentation.			Childr. born.		Health of Mothers.		Placenta.		Hæmorrhage.		Convulsions.		Forceps.		Craniotomy.	Ruptured Uterus.	Premature labour induced.	Apoplexy after labour.	Ruptured vagina.	Lacerated labium.	Lingering breech case, requiring instruments.	Second child of twins turned.	Face presentations.	Ear presentations.
		Twins.	Triplets.	Boys.	Girls.	Head.	Breech or lower extrem.	Transverse.	Living.	Still.	Well.	Died.	Present: Complete	Present: Partial.	Adherent or retained.	Accidental.	After labour.	Before birth of Child.	After labour.	Long.	Short.										
1828	2400	22	—	1264	1158	2329	86	7	2316	106	2392	8	—	3	13	3	3	1	1	3	—	6	—	—	—	—	—	2	—	8	—
1829	2202	28	—	1156	1074	2142	81	7	2135	95	2191	11	1	—	15	8	6	1	2	3	2	1	—	1	—	—	1	—	1	12	—
1830	2221	26	—	1161	1086	2181	59	7	2168	79	2207	14	1	1	20	7	11	3	1	2	2	1	1	2	1	—	—	—	—	8	—
1831	2144	26	—	1134	1036	2102	60	7	2081	88	2132	12	—	3	17	7	6	1	2	3	—	3	—	2	—	1	—	1	—	7	—
1832	2344	33	—	1197	1180	2320	51	6	2287	90	2331	13	2	1	25	11	5	—	1	2	—	2	—	4	—	—	—	1	—	8	1
1833	2619	22	—	1372	1269	2573	64	4	2556	85	2603	16	2	—	18	5	9	3	2	—	—	3	—	3	—	—	—	—	—	12	—
1834	2447	26	—	1285	1188	2408	57	8	2394	79	2437	10	1	—	10	5	6	1	1	3	1	—	1	1	—	—	—	—	—	17	3
1835	2311	16	—	1229	1098	2263	57	7	2244	86	2304	7	2	1	8	7	5	4	—	1	2	1	—	1	—	—	—	—	—	8	1
1836	2268	22	1	1150	1142	2215	73	4	2202	90	2260	8	4	4	8	3	4	1	—	—	2	—	—	2	—	—	—	—	—	8	—
1837	2140	26	—	1085	1081	2113	40	13	2079	87	2127	13	2	—	16	10	1	1	2	—	3	2	1	1	—	—	—	—	—	10	1
1838	2136	25	—	1115	1046	2087	68	6	2076	85	2127	9	1	—	11	6	4	—	—	1	2	—	2	1	—	—	—	—	—	7	—
1839	2079	18	—	1082	1015	2044	48	5	2012	85	2070	9	4	1	14	7	—	1	—	1	2	2	—	—	—	—	—	—	—	8	—
1840	2173	27	—	1144	1056	2131	60	9	2120	80	2165	8	6	4	9	10	1	—	1	2	4	4	—	—	—	—	—	—	—	9	—
1841	2167	27	—	1124	1070	2143	44	7	2107	87	2161	6	1	—	16	10	—	—	—	—	—	6	1	1	—	—	—	—	—	7	—
1842	2090	19	—	1075	1034	2068	40	2	2041	69	2079	11	4	—	9	11	3	1	—	—	1	3	1	1	—	—	1	—	—	4	—
1843	2002	23	—	1037	988	1977	42	6	1953	72	1991	11	1	—	7	6	8	—	—	1	6	4	1	—	—	—	—	—	1	8	—
Total	35743	386	1	18610	17521	35096	930	105	33868	2263	35577	166	32	18	206	116	72	18	13	22	27	38	8	20	1	1	2	4	2	141	6
													50					31		49										

Years.	From Puerperal Causes or attributable to the Puerperal State.	Phthisis.	Chronic Pneumonia.	Hæmoptysis	Chronic Laryngitis	Influenza.	Causes of the Deaths. Scarlatina	Asiatic Cholera.	Typhus.	Dropsy.	Suspected Heart Disease.	Sloughing Polypus Uteri.
1828	6	1	—	—	—	—	—	—	—	—	1	—
1829	7	1	—	—	—	—	1	—	2	—	—	—
1830	12	1	1	—	—	—	—	—	—	—	—	—
1831	7	2	2	1	—	—	—	—	—	—	—	—
1832	10	—	1	—	—	—	—	2	—	—	—	—
1833	9	5	—	—	1	—	—	—	1	—	—	—
1834	7	—	—	—	—	—	—	2	—	1	—	—
1835	7	—	—	—	—	—	—	—	—	—	—	—
1836	7	1	—	—	—	—	—	—	—	—	—	—
1837	8	3	—	—	—	1	—	—	1	—	—	—
1838	8	—	—	—	—	—	—	—	—	—	1	—
1839	7	—	—	—	—	—	—	—	2	—	—	—
1840	7	—	—	—	—	—	—	—	—	—	—	1
1841	6	—	—	—	—	—	—	—	—	—	—	—
1842	10	—	1	—	—	—	—	—	—	—	—	—
1843	8	1	1	—	—	—	1	—	—	—	—	—
Total	126	15	6	1	1	1	2	4	6	1	2	1

Note. — 126 total deaths; 40 not from puerperal causes.

The deaths from puerperal causes include all cases of inflammation of the lungs, and other organs, which originated *after* labour, within the puerperal month; as well as all cases of fever, except those that evidently arose from external infection, not connected with the puerperal state, as scarlatina and typhus.

DEATHS FROM PUERPERAL CAUSES.

Years.	Hæmorrhage. Immediate.	Hæmorrhage. Remote.	Convulsions. Before.	Convulsions. After.	After Craniotomy.	After Forceps.	Ruptured Uterus or Vagina.	Peritonitis.	Hysteritis.	Diffused Pelvic Inflammation.	Irritative Fever without loss of Blood.	Sudden unknown.	Intestinal irritation.	Common continued Fever.	Puerperal Mania.	Pneumonia.	Apoplexy after Labour.	Exhausted under Lingering Labour.	Exhausted for want, after shoulder Presentation.
1828	1	2	—	—	—	—	—	2	—	1	—	—	—	—	—	—	—	—	—
1829	3	3	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1830	—	6	—	—	1	1	1	2	—	—	1	—	—	—	—	—	—	—	—
1831	2	2	—	—	1	—	1	—	1	—	—	—	—	—	—	—	—	—	—
1832	3	1	—	—	1	—	—	3	—	—	—	1	1	—	—	—	—	—	—
1833	4	—	—	1	1	—	—	—	—	—	—	—	—	1	—	2	—	—	—
1834	2	1	—	1	—	—	1	—	1	—	—	—	1	—	—	—	—	—	—
1835	—	1	—	—	—	—	—	3	2	—	—	—	—	—	—	—	1	—	—
1836	2	1	—	—	—	—	—	2	—	—	—	—	—	—	2	—	—	—	—
1837	—	2	—	—	—	—	1	1	—	—	—	—	—	—	—	1	1	1	1
1838	2	—	—	—	—	—	2	—	1	—	—	—	—	2	1	—	—	—	—
1839	2	1	—	—	—	1	—	3	—	—	—	—	—	—	—	—	—	—	—
1840	2	3	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—
1841	2	—	—	—	—	—	1	1	1	—	—	—	—	—	—	—	1	—	—
1842	3	2	—	—	—	—	1	1	2	—	—	—	—	—	—	—	—	—	—
1843	3	—	—	—	1	—	1	1	—	1	—	—	—	—	—	2	—	—	—
Total	31	25	—	2	6	3	9	20	8	2	1	1	2	3	3	5	3	1	1

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CAUSES OF THE CHILDREN NOT BEING BORN LIVING.

Years.	Premature, either spontaneous or induced artificially.	Putrid at full time, or nearly so.	Breech at full time, or nearly so.	Transverse. Do.	Under Placental Presentation.	Under accidental Hæmorrhage.	Under Craniotomy.	Under Forceps.	Monstrous.	Under Lingering Labour.	Under Convulsions.	Mother nearly moribund.	Accident to Mother.	Prolapsed Funis.	Under Face Presentation.	Under Ruptured Uterus or Vagina.	Not accounted for.
1828	24	9	11	3	1	3	6	—	—	—	1	—	—	6	1	—	41
1829	27	18	16	4	1	6	1	—	1	—	1	—	—	6	—	—	14
1830	27	9	9	4	1	1	1	2	1	—	3	—	—	6	—	1	14
1831	29	11	14	3	1	4	3	—	—	2	—	—	—	7	—	1	14
1832	30	13	6	1	3	5	2	—	1	5	—	2	—	8	—	—	13
1833	22	16	11	4	1	—	3	—	4	3	1	1	—	7	—	—	11
1834	34	4	14	7	1	4	—	—	1	—	—	—	1	4	—	1	8
1835	26	6	16	4	2	6	1	1	2	3	3	—	—	6	—	—	10
1836	23	6	17	3	2	1	—	—	1	3	1	—	4	6	1	—	22
1837	23	15	5	6	2	4	2	—	2	2	2	—	3	8	1	1	11
1838	19	12	14	3	1	2	—	1	1	1	—	—	—	12	2	2	11
1839	21	6	15	3	3	3	2	2	—	6	—	1	2	8	1	—	12
1840	10	14	8	5	9	6	4	2	2	2	—	—	3	8	1	—	6
1841	14	18	9	6	—	6	5	—	4	2	—	—	1	6	—	1	15
1842	23	9	3	2	4	5	3	1	—	4	—	—	—	3	—	1	11
1843	21	7	6	3	—	4	4	2	—	6	—	—	1	8	—	1	9
Total	373	173	174	61	32	60	37	11	20	39	12	4	15	109	7	9	222

Note.—For the three first years no account was taken of the still-born births under lingering labour; nor for the first six of any accident that might have happened to the mothers. Two of the craniotomy cases were hydrocephalic; the monstrous births include the cases of hydrocephalus that passed without operation, as well as dropsy of the abdomen, &c.

It thus appears, that out of 35,743 deliveries, there were 386 cases of twins—1 in 92·6, or 1·08 per cent.; and 1 case of triplets.

That of the 36,131 children born,

18,610 were males — 51·5 per cent.
17,521 „ females — 48·5 „

or, in other words, that the excess of males over females was as nearly as possible 3 per cent.

That 35,096 were presentations of some part of the head, of which 141 were face presentations—1 in 248·9, or 0·4 per cent; and 6 were ear presentations—1 in 5849·3, or 0·017 per cent.

That 930 were presentations of the breech, or some part of the lower extremities—1 in 38·8, or 2·6 per cent.; and 105 transverse presentations—1 in 340·3, or 0·3 per cent.

That 33,868 were born living—93·7 per cent.

That 2,263 were born still—1 in 16, or 6·3 per cent.

That 166 women died either within a month after delivery, or from the effects of labour—1 in 215·3, or 0·46 per cent.

But that only 126 of these deaths could be attributed to a puerperal cause—1 in 283·67, or 0·33 per cent.

That 40 were placental presentations, either partial or entire—1 in 893·5 cases, or 0·11 per cent.

That in 206 cases the placenta was retained, or adherent, requiring the introduction of the hand for its removal —1 in 173·5, or 0·58 per cent.

That 116 were cases of accidental hæmorrhage—1 in 308·1, or 0·33 per cent.

That in 72 cases hæmorrhage took place after the delivery of the placenta —1 in 496·5, or 0·2 per cent.

That 31 were complicated with convulsions, either before or after delivery, —1 in 1153, or 0·09 per cent.; and 1 with apoplexy after labour.

That 38 women were delivered by craniotomy—1 in 940·3, or 0·11 per cent.

That 49 were delivered by the forceps—1 in 729·4, or 0·14 per cent.

That in 20 premature labour was induced—1 in 1787·1, or 0·06 per cent.

That there were 8 cases of ruptured uterus—1 in 4467·9, or 0·02 per cent.; 1 of ruptured vagina, and 2 of lacerated labium—1 in 17871·5, or 0·006 per cent.

That 4 were cases of breech presentation, requiring instrumental delivery, —1 in 8935·7, or 0·01 per cent.; and that in 2 cases of twins, the second child was delivered by turning—1 in 17871·5, or 0·006 per cent.

That of the 126 deaths from puerperal causes, 56 were from hæmorrhage, either immediate or remote—1 in 2·25, or 44·4 per cent.

That the deaths from hæmorrhage, either immediate or remote, in proportion to the whole deliveries, were 1 in 638·27, or 0·15 per cent.; and in proportion to the number of cases of hæmorrhage, 1 in 7·9, or 12·6 per cent.

That there were two deaths from convulsions, which came on after delivery—1 in 17871·5, or 0·006 per cent.

6 after craniotomy—1 in 6·3, or 15·8 per cent. of the cases in which that operation was performed; and 1 in 5957·16, or 0·017 per cent. on the whole number of deliveries.

3 after the forceps had been used—1 in 16·3, or 6·12 per cent. of the cases in which that instrument was employed; and 1 in 11914·3, or 0·008 per cent. on the whole deliveries.

That 20 women died of peritonitis—1 in 1787·15, or 0·05 per cent.

8 of hysteritis—1 in 4468, or 0·022 per cent.

2 of diffused pelvic inflammation—1 in 17871·5, or 0·005 per cent.

3 of common fever caught after labour—1 in 11914·3, or 0·008 per cent.

5 of pneumonia taken after labour—1 in 7148·6, or 0·014 per cent.

The table also shews, that of the 40 deaths not attributable to puerperal causes, 23 were from diseases of the lungs, of which 15 were confirmed phthisis; 1 of the larynx; and 2 supposed to be diseases of the heart.

That 6 women died of typhus fever; 4 of Asiatic cholera, then raging; and 2 of scarlet fever,—all caught during pregnancy; 1 of dropsy, and one of a sloughing polypus of the uterus.

That of the 2263 still-born children, 373 were premature—1 in 6·06, or 16·5 per cent; and 173 were putrid at full time—1 in 13·08, or 7·7 per cent.

That 174 were breech presentations, out of 930 breech cases at full time—1 in 5·34, or 18·7 per cent.

61 were transverse presentations, out of 105 transverse cases at full time—1 in 1·72, or 58.1 per cent.

32 under placental presentations out of 40 cases—1 in 1·25, or 80·0 per cent.

60 under accidental hæmorrhage out of 116—1 in 1·92, or 51·7 per cent.

11 were delivered by the forceps out of 49—1 in 4·45, or 22·45 per cent.

37 were delivered by craniotomy.

12 under convulsions, out of 18, which came on before delivery—1 in 1·5, or 66·6 per cent.

39 under very lingering labour—1 in 58, or 1·72 per cent. on the number of still-born children; and 1 in 929, or 0·1 per cent. on the whole number born.

9 under ruptured uterus or vagina—1 in 251·4, or 0·4 per cent. on the number of still-born children.

109 under prolapsed funis—1 in 20·7, or 4·8 per cent. on the number of still-born children, and 1 in 331·5, or 0·3 per cent. on the whole deliveries; and that 20 were monstrous—1 in 113·15, or 0·89 per cent. of the still-born; and 1 in 1806·5, or 0·05 per cent. of the whole deliveries.

MICROSCOPICAL EXAMINATION OF AN EARLY CORPUS LUTEUM.

By T. Wharton Jones, F.R.S.
Lecturer on Anatomy, Physiology, and Pathology, Charing-Cross Hospital.

(For the London Medical Gazette.)

About the middle or end of May last, Dr. Lee brought to me an ovary containing a small tumor, which he informed me had been sent to him along with the uterus, and accompanied by the following note:—

"Monkwearmouth, May 9, 1844.

"Dear sir,—I venture to encroach on your valuable time, to ask your opinion of the accompanying preparation illustrative of a point to which the medical world knows you to have paid much attention.

"Is the corpus luteum in this case a true or false one? It was taken from the body of a female upwards of thirty years of age. She died suddenly, and no accurate information could be gained regarding her last menstrual periods. Several medical gentlemen have examined the corpus luteum, and are so much divided in opinion about it, that they would feel deeply indebted to you to examine it, and favour us with your *decision* upon the question.

"I hope you will have the goodness to excuse the great liberty a stranger thus ventures to take; but knowing your kindness, and having every confidence in your opinion, I have the honour to remain,

"Your obedient servant,
"Henry O. Bowman, M.D.

"*Dr. Lee.*"

"P.S.—As the preparation belongs to a medical friend, who was so kind as to allow me to examine it, I shall feel obliged by your returning it with your decision. If it were mine you would be heartily welcome to it; indeed, I should have considered it my duty to have presented it to you.

"H. O. B."

The preparation was preserved in spirits. A section had been made, dividing the ovary and the tumor-like body into two similar halves. The appearance which this section of the body presented was like that of a firm dark clot of blood, having in its centre an elongated membraniform shred, one end directed towards the interior of the ovary, the other towards the exterior. From this shred, which was smooth on its free surface, processes extended here and there, in a radiating manner, into the substance of the clot-like body.

Dr. Lee was disposed to consider the body in question to be what to the naked eye its general appearance seemed to indicate, viz. a clot of blood containing a flake of fibrin, from which the red corpuscles had separated. And on making a fresh section of one of the halves of the body, in the same plane as the first, Dr. Lee was strengthened in his impression that it was not a corpus luteum resulting from impregnation; for the appearance which presented itself was such, that the naked eye could not well recognise it to be any other than that of a clot of blood.

On carefully tearing the clot-like body, however, under water, I found that it did not comport itself in the same way that a mere clot of blood would have done. I saw that the processes which radiated from the central membraniform shred into the substance of the clot-like body were filamentous, like what is observed in true corpora lutea. Besides this, I found that the proper substance of the clot-like body tore in a fibrous-like manner—the fibres extending from the central membrane to the circumference of the body.

I therefore stated to Dr. Lee that I suspected that he was mistaken as to the nature of the body, and that in fact it was a true corpus luteum in a very early stage; but that, considering the gravity of a decision on such a point, no conclusion ought to be come to until the body had been subjected to a most careful microscopical examination,—without which, indeed, any decision would be mere guess-work.

Dr. Lee coinciding in the propriety of this, gave over to me one-half of the ovary, and of the body in it, for microscopical examination; and the following is the result:—

The body in question is of a lenticular form, about six-tenths of an inch in diameter, and about four-tenths thick, and projects on the surface of the ovary by somewhat more than half its diameter. The prominent part being covered merely by the indusium of the ovary, the dark-brown red colour of the body shines through.

Examined microscopically, the central membranous shred was found to present the following structure:—

1. On its free surface a fine film of tessellated epithelium. 2. Invested by this epithelium was a stratum of finely interwoven transparent fibres, with dark contours, somewhat like elastic tissue. 3. Outside all was a layer identical in structure with the stroma of the ovary; the same structure as that composing the principal thickness of the walls of Graafian follicles.

The membranous processes possessed a similar structure, and were found to be continuous with the stroma of the ovary. That part of the body next the substance of the ovary had, by its pressure, so condensed the stroma at the place, that the latter looked somewhat like an external capsule sending processes inwards, which met and interwove with those sent outward by the central membranous shred. But that this appearance of external capsule was the result simply of matting of the stroma of the ovary by pressure, is shown by the circumstance that it was absent at the peripheral part of the clot-like body, there being there, as already said, merely the indusium*.

As to the microscopical characters of the clot-like matter itself:—this was found to consist of granulous corpuscles, somewhat like so-called compound inflammation globules closely aggregated, and red blood corpuscles interspersed amongst them. The latter had lost some of their colouring matter, but the granulous corpuscles were tinged red, as if they had imbibed it.

The conclusion which is to be drawn as to the nature of the body from this investigation is, that it is a true corpus luteum* in an early stage; that the central membranous shred is the wall of the Graafian follicle, from which the ovum had escaped; and that the clot-like mass (which would have by and by acquired the characteristic yellow appearance of the corpus luteum, traces of which, indeed, could in some deep places be detected), together with the membranous processes extending through it from the central shred to the stroma of the ovary, is the stroma surrounding the Graafian follicle infiltrated with bloody-looking matter.

I say *bloody-looking*, for although it is certain that there is some blood present, it remains a question what sort of matter the granulous corpuscles were developed from—blood effused in substance, or exuded lymph?

Into this question I will not enter; but for some observations bearing on it, and on the nature of the organization of corpora lutea, I beg to refer to my "Report on the Changes in the Blood in Inflammation, and on the Nature of the Healing Process," in the last number of the British and Foreign Medical Review.

Before concluding this paper, I take leave to glance at the following questions:—

1. What determines the effusion of the matter from which a corpus luteum is developed? In answer to this it might be suggested, that in consequence of coitus, a reflexion takes place on the vessels of the ovary, and congestion is thus produced in the walls of the ripest Graafian follicle, and in the stroma around. Effusion of blood, and probably exudation of lymph, follows.

* A corpus luteum turned out of its nidus in the stroma of the ovary may still retain an appearance of a capsular investment, but this obviously depends on the circumstance, that the matter forming the corpus luteum is *infiltrated in a cellular tissue*. The same thing is seen in the case of the wax of injection which has been extravasated into the cellular tissue, where it is turned out.

* See my "Report on the Ova of Man and the Mammifera before and after Fecundation," in Brit. and For. Med. Review, Oct. 1843.

According to this view the formation of a corpus luteum would be quite independent of the contact of seminal fluid with the ovary or ovum, and consequently independent of impregnation. And that it is so has been already established, as regards the lower animals, by the experiments of Haighton and Blundell on rabbits, viz. that though by obliteration of some part of the female genital passages, the access of semen to the ovary was prevented, still Graafian follicles were observed to have burst, and corpora lutea formed *post coitum**.

The same circumstance appears likely to have held in the case of the woman whose ovary forms the subject of the preceding observations, for Dr. Lee informs me that the fallopian tube of the same side was diseased and contracted, if not obliterated, and that the uterus had undergone none of the changes usually observed in its cavity and cervix after recent impregnation.

2. If in the human female Graafian follicles burst periodically, independently of coitus, why is there no corpus luteum left? The explanation which might be given of this is :—

By a slow, natural, and regular process, a Graafian follicle maturates, points, bursts, and is evacuated like a small healthy abscess or pimple, and like this, the part quickly cicatrizes.

A Graafian follicle at the time of coitus not happening to be in this fully mature state, its bursting is hastened by the process of congestion, and exudation and extravasation, above described; but when burst, the lymph and blood in an altered state remain for a while in the form of a corpus luteum, which may thus be compared to the hard base of an abscess evacuated prematurely.

3. Though true corpora lutea, there is reason to believe, are formed only after coitus, impregnation may take place without the formation of a corpus luteum. How is this? The explanation which might be offered of such rare cases is this. Coitus may have chanced to take place at the very time when a Graafian follicle, having become mature, had spontaneously given way, and expelled the ovum. No congestion, exudation, and extravasation, would in this case take place, but the part would quickly close and cicatrize.

4. Lastly, what explanation can be given of the origin of false corpora lutea? To this it might be answered, that from some circumstance or other effusion of blood takes place into the interior of a Graafian follicle perhaps on the point of bursting spontaneously. This blood coagulates, and remains filling and distending the Graafian follicle, even although its walls may have subsequently given way.

But besides this effusion of blood, an exudation of lymph takes place on the inner surface of the walls of the Graafian follicle, in consequence of the irritation produced, which, becoming organized, presents the same yellow appearance as the substance of the true corpus luteum formed outside the walls of the Graafian follicle.

In conclusion I would remark, that, though *physiologically* one may be permitted to speculate, as I have done, on the relation between the occurrence of corpora lutea in the ovaries and preceding coitus, it would be rash and unwarrantable in any one to pronounce positively, from the occurrence of a corpus luteum in the ovaries, that coitus had taken place. The discovery of an ovum in the uterus, *in process of development*, could alone, in the present state of knowledge, warrant such an affirmation in a court of law. But, on the other hand, the absence of a corpus luteum could not warrant the affirmation that coitus had not taken place.

ON THE

PRESENT STATE OF CRANIOSCOPY,

UPON A SCIENTIFIC FOUNDATION :

A Lecture delivered at Leipzig, on the 3d of February, 1844,

By Dr. C. G. Carus,

Medical Privy Councillor, and Physician in Ordinary to His Majesty the King of Saxony, &c. &c.

TRANSLATED FROM THE GERMAN,

By J. C. H. Freund, M.D.

(For the London Medical Gazette.)

Preface by the Translator.—The reason that induced Dr. Carus to yield to the repeated wishes of his friends to see in print this lecture, was no other than his deep conviction that its publication would tend to establish, in a wider circle, correcter views of a sub-

* See "Report on the Ovum of Man and the Mammifera," *ut supra*.

ject which, the better its real importance is understood, the greater will be the attention bestowed upon it.

The lecture was not originally intended for publication. It must be confessed that within the limits of one lecture it was impossible for Dr. Carus to display the quantity of material he had collected, or to enter into a very close consideration, or any perfect explanation, of his views, which, founded as well upon the history of the *Psyche* as upon the anatomy of the body, may be conceived as requiring some space for their full development.

Dr. Carus expects that the plain and simple line of reasoning which he has followed in his lecture, will afford no less satisfaction to the scientific but unbiassed mind, than enlightenment to those who are neither acquainted with physic nor anatomy; for every thing like tedious detail has been purposely avoided.

The different works that furnish a more extended knowledge of Cranioscopy are pointed out in the course of the lecture; and Dr. Carus intends to seize every opportunity, upon future occasions, of further elucidating the subject, of cultivating it more extensively, and of rendering it more variously practical.

The interest which I have long taken in the subject induced me some years ago to translate Dr. Carus's work on Cranioscopy, published 1841, but I never laid it before the public. During the late sojourn of Dr. Carus with his Majesty the King of Saxony in London, I had the honour of his personal friendship, and many opportunities of conversing with him on the subject of cranioscopy. On informing Dr. Carus of my having made a translation of his earlier work, he advised me to publish a translation of his lecture given at Leipzig, as it conveys a clear view of the subject even to those unacquainted with anatomy and physiology. I have followed Dr. Carus's kind advice; and in laying it before the public, I have to crave indulgence for many Germanisms, which I know must present themselves to the English reader.

I wish especially to direct attention to one point: the words *Geist*, *Seele*, and *Psyche*, occur throughout the original as expressing simply the animating principle of the brain, whether in man or animals; and I use the term "psyche," and "psychical," as meaning that animating principle, and nothing farther.

ON SCIENTIFIC CRANIOSCOPY.

Old Theophrastus, the pupil of Aristotle, and so famous for his great knowledge of man, says in the introduction to his work on Character: "I am often surprised, and, in spite of every possible inquiry which I have instituted upon the subject, I never could make out how it happens that the Greeks so little resemble one another; and yet their mode of education and of living is alike, and the climate of Greece herself is in all parts the same." We ought to apply this remark more generally, and say, that of all the wonders commonly left unobserved, or little noticed —wonders which daily surround us, and of which we ourselves form part —the most remarkable is that of the many millions of human beings now inhabiting the earth, of those who for thousands and thousands of years have passed away in successive generations, and of those who are to come in future times, there never have been, and never will be, two men thoroughly and completely alike.

This boundless variety in organic life, which can be seen in whatever direction we trace it—this manifold diversity, of which Leibnitz says that it never allows two leaves of the same tree to be precisely similar—prevails in the human organization with grand and unlimited freedom.

From the earliest times, therefore, the necessity became evident of introducing into this endless variety in nature, certain orders, distinctions, and subdivisions, and there was a constant endeavour to fix upon criterions, so as to enable us to recognise, distinguish, and as it were to decipher the different races of man, tribes, and families, and finally to learn how far individuals differ from one another according to their physical, psychical, and ethical or moral peculiarities. There was in general no difficulty in re-making a system of outward signs or symbols (Symbolik) so as to distinguish the negro, the most strongly marked class of the human race, and which I in my Physiology have called by the name of "*nocturnals*" (Nachtvoelker), from the true European, the most strongly

marked class of the "*diurnal*" tribes (Tagvoelker), and the latter from a very extensive group of "*twilight*" genera (Daemmerungs-Voelker) in the east and west; and finally, it was easy to create a distinction between the idiot with his head either stunted in growth or enlarged by dropsical effusion, and the noble and the well-developed head of the man of the world or of letters. The features for this purpose were soon made out; but the more details were entered into, the finer the distinctions in the outward appearances that were sought after, so much more difficult did the undertaking become. The most astonishing circumstance was the eagerness with which external marks and signs of all kinds were grasped at. At one time the distinctive marks were taken from the features of the face, at another they were sought for in the whole organization of the individual; some supposed them to be latent in the form and lineaments of the hand, others in the difference in shape of the head; and, indeed, there might be some truth in all this, for every individual creature, and especially every human being, is not only peculiarly formed and organised in some one part or other, but the same peculiarity pervades all, inheres in every thing: with a hand of such and such a shape there we find exclusively such and such a face, and such and such a head, no other; every organism is but the true expression of a particular idea, and therefore must be thoroughly the offspring of the whole, and be in harmony with *itself*.

The difficulty in recognising perfectly this congruity, rests chiefly with *our* short-sightedness. The ancient artists were the first who practically succeeded in obtaining definite results in expressing the individuality of different forms; they observed very acutely the varieties of man as regards race, sex, and personality, through the peculiar conformation of limbs, body, and head, and imparted this character to their statues. This was well understood by the genius of the common people, who in such things appreciate at first, half unconsciously as it were, but therefore, and subsequently, with all the clearer understanding.

Let any one remark the difference in the trunk and limbs, in the head and countenance, of a Jupiter, an Apollo, a Hercules, a Faun or Silenus, and he will not then deny that the Greek artists possessed a knowledge of the outward signs of human organisation, not less wonderful and striking, than any one thing for which we are indebted to that remarkable, and highly favoured nation, in poetry, the arts, or philosophy. With all this, however, the light diffused by scientific knowledge was still wanting; they were conscious that a different meaning was attached to this and to that, but a closer argument it never entered into their minds to attempt. Every thing that has been said of the different regions of the human skull partakes of the same uncertainty that we see in earlier times pervading the writings of Aristotle. Gordon, a Scotchman, and professor at Montpellier in the 13th century, following his predecessors, ascribed certain faculties of the mind to certain parts of the head; and he believed that a higher development of this region of the head bespoke a higher development of that mental faculty; but all this was said without any sufficient scientific reason.

The first traces of sound conclusions in regard to the meaning of different shapes of the head, and founded on scientific principles, are met with in the books of Giov. Baptista Porta, who, writing in the 16th century, supported his assertions partly by "comparing different forms of head in different animals, with those of well-marked human beings." But in spite of all this, no important results could be come to so long as the state of physiology had not led to any definite conclusions relative to the formation of the brain, or the development of the skull.

Dr. Gall, a German (born 1757, died 1828), was the first who laid a certain scientific foundation for the doctrine of symbols, as applied to the formation of the human head. At one time he directed his acute powers of observation to convince himself that certain forms of the head correspond in a most remarkable manner with certain peculiarities in the intellectual (gemüthlich) and active development of different persons; at another time he occupied himself in scientifically dissecting the human brain; and by making use of a more genetical method, he came to clear conclusions on the formation of many parts of that organ by plication,

and proved how absurd the method was that had been used up to that time by common and merely empirical anatomists, who satisfied themselves with dissecting the brain in slices as if it were a loaf of bread. It was the same with their description and nomenclature of the parts. Finally, Gall was the first who asserted that the brain is to be regarded as a higher development of the spinal chord, as if indeed it were a spinal chord diverging at the top, like the unfolding of a flower. It is to be regretted that at the time when Gall was occupied with these inquiries, viz., between the 80th and 90th years of the last century, the doctrine of the development, structure, and meaning of the organization, was very much in arrear. Happily, the progress which science has made in these respects during the last four decennials, and especially in the two last, has been very great.

The application of the microscope has not merely revealed a new world around us, in the same manner as the telescope has brought to view the heavenly bodies, but it has caused a world of new organizations to spring up within ourselves, especially as regards the subject in question, and of which neither Albinus, Haller, nor Soemmering, could have had any idea.

From the same cause Gall wanted material in investigating the structure of the brain and skull; and in his attempt to found a system of symbols he unfortunately did not content himself with merely collecting observations, and constantly comparing them with one another, in order to find out what sort of structure is usually met with in the head of this individual character, or that, &c., but he lost himself so far as to bring this most imperfect substratum to a kind of system, which he even sought, in his lectures from 1796, to submit, as it were, to the judgment of the public at large. Hence it happened that a multitude of unlearned men, who were unacquainted with the necessary preliminaries, not only made themselves masters of the system, but pretended to cultivate and to diffuse the same; and thus was brought to light the scientific monstrosity called Gall's Doctrine of Organs, in which it was asserted that the faculties of judgment, and kind-heartedness, the talent of painting, and the sense of locality, theosophy, and other powers, were engrafted upon or connected with small portions of the surface of the brain, just as we are told, in the fables of old, that certain spirits remained incarcerated in the narrow fissure of some mighty oak. In fact, these opinions were too absurd not to be repulsive to all men of science; they were even of such a nature that they necessarily gave rise to a kind of disgust, and from this it followed that even the important conception, which is owing in a great degree to Gall alone, has been lost sight of, and that the doctrine of symbols has been allowed to fall to the ground as something hypothetical and superstitious. It was quite a different thing with the unscientific members of the community, who, not being aware of the great mistakes, were kept alive to the doctrine by the particle of truth contained in it, and which, in spite of all opposition, they acknowledged more by their feeling and instinct than by their intellect and faculties of comparison; and thus it was that to a certain degree they acknowledged the importance and signification of the outward structure of the skull in reference to corresponding psychical peculiarities, and preserved the idea in life and literature: yes, in spite of all their objections to the one-sided view of the so-called phrenologists, the public could not be persuaded to refuse some belief to this doctrine; and the opinions of Gall again and again rose to the surface, and even at the present day they are defended unfortunately by party men, who are about as capable of giving due weight to the importance of the subject as that Hungarian nobleman who, after he had attended Gall's lectures, purchased a collection of skulls, and, upon one occasion, shewing (triumphantly) to his friends two skulls which he regarded as important acquisitions, of which one was supposed to be that of Rakossi, the great revolutionist, replied, when asked by some one present "and whose is the other?" pointing to the skull of an infant, "that is the skull of the same Rakozzi when he was a child."

I readily confess that it required a long time before I could bring myself to take any interest in this subject, although for thirty-four years now I have been a zealous and active follower of anatomical, physiological, and medi-

cal science. I was too much in the habit of pursuing the light of close scientific reasoning to pay any attention to these hypotheses of the abstract doctrine of organs. Whilst working out my System of Physiology, I was led to trace once more, step by step, the meaning of the osseous structure, and thus I became cognizant of the truth, that if, by following more closely the relation between the nervous system and psychical life, it should become apparent that there is, originally, a peculiar psychical meaning allotted to every larger portion of the brain, it must also necessarily follow that that division or portion of the skull or skeleton of the head which bears reference to such a division, must afford a sign, a symbol, indicative of the degree of development of that portion of the brain which is contained in the same.

While I here took hold of the thread, for the purpose of going the right way in this great labyrinth, and while I felt from thence all the love and zeal for closer and clearer inquiry into that particle of truth of which Gall had a slight conception, I was obliged to confess, at the same time, that it is one of the most difficult tasks to be solved by morphology and physiology, that it is a subject which — thus we may follow it up to its height and find its application to real life—requires a thorough knowledge of all the facts and experiences offered by physiology and pathology; a subject, finally, the further cultivation of which ought never to be sought for from the dilettante and unprofessional men. I therefore beg leave to call to mind that this essay of the real results of a new and scientific cranioscopy must not be looked at as an attempt to give that information which will at once enable us to ascertain the peculiar faculties of the mind, the propensities and inclinations belonging to any individual, merely by observing and touching his skull; but I wish it may be regarded as an account of all that I have found is possible to collect upon the doctrine of symbols by a strictly scientific examination of the structure of the brain and skull of the subject.

There can be no reasonable objection to lay these results before the public: we see that the same is done with the progress recently made in natural philosophy, astronomy, and physics; and surely nobody will suppose that all who attend to these subjects become astronomers and natural philosophers, or men of science.

[To be continued.]

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue a allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Practical Treatise on the Diseases of the Testis, and of the Spermatic Cord and Scrotum; with Illustrations. By T. B. CURLING, Lecturer on Surgery, and Assistant-Surgeon to the London Hospital, Surgeon to the Jews' Hospital, &c. London: Longman and Co. 1843. 8vo. pp. 542.

WHEN we read the announcement of this work, we considered Mr. Curling a bold man to engage in such an undertaking. The subject, we imagined, had been so fully worked out by the great master of modern surgery, and so recently revised by Mr. Bransby Cooper, who favoured the profession with a new edition of his uncle's work so lately as 1841, that we had our doubts whether or not Mr. Curling could shew good cause for bringing his name thus conspicuously in juxtaposition with one which, for generations to come, must be the cynosure of English surgery. Yet a little reflection served to convince us, that it was unfair to prejudge Mr. Curling on such grounds, and we determined to reserve our opinion until we should have the work before us. There would be little progress made in science were the industrious cultivator to be deterred in his investigations by the consideration that the highest talent had already, and that but lately, been devoted to the same subjects. Fortunately, all history goes to shew, that the brilliancy of one man's talents and achievements only serves to call forth latent power in others, who might else have lived their appointed span without evincing one spark of the slumbering fire within them. We might adduce examples illustrative of this view in all departments of life,—in the senate, in the field, and in science; in none could we find more striking examples than in medicine.

Mr. Curling is already well known to the profession through his excellent work upon Tetanus; and the connection which he has so long enjoyed with the London Hospital has afforded him great opportunities of prosecuting his researches on the pathology of the testis. The work before us will, we believe, add much and deservedly to Mr. Curling's reputation as an author; it affords ample proof of the able, diligent, and steady manner in which he has applied himself to his assumed task. We are told in the preface that his attention has been directed since 1835 to the subject of the morbid anatomy of the testis, and that he has lost no opportunity of studying the pathological changes to which this organ is liable.

The work has been divided into three parts, comprising the Anatomy of the Scrotum and Testis, the Diseases of the Testis, and the Diseases of the Cord. Of these, that section devoted to the diseases of the testis occupies the largest portion of the volume, and is the one which will, in all probability, be most interesting to the practitioner. Like a sound pathologist, however, Mr. Curling has, by commencing with the normal anatomy, evinced his opinion that a person had best learn to appreciate healthy tissue and development before he devotes his investigations to the wider and more difficult field of morbid structure.

The anatomy and descent of the testis are so fully treated of in works upon anatomy and physiology, that we need do no more with reference to this part of the volume before us, than state our impression that Mr. Curling has executed it in an able manner, more especially as regards the progress of the organ towards the scrotum, on which subject he entertains some views peculiar to himself, and which have received the sanction of some other modern authorities. He adheres, we perceive, to the ordinary term "descent," in allusion to the gradual alteration in the site of the testicle; but we wonder that, with his usual accuracy in the use of language, he does so. During fœtal existence the course taken by the organ is as much of an ascent as the reverse. The term descent was doubtless used in former times to imply, that the weight of the organ during the upright attitude of the body caused it to descend into the scrotum—a vulgar mechanical notion, which readily gains credence with those who do not know better. Our author has demonstrated that the true motive power which induces the change in question is in all probability in the gubernaculum and cremaster muscle, and breaks a lance with Hunter and Meckel on the subject, by way of shewing that these distinguished anatomists had not sufficiently appreciated the different attachments and changes of these structures. If, then, the testicle be acted upon in the mode described by Mr. Curling—and we think highly of his views on the subject—we conceive that it would be better at once to adopt some other term than in general use.

But our readers, like ourselves, will doubtless be most anxious to know something of the section on diseases of the testis; and we therefore hasten onwards. No less than eighteen chapters are devoted to this portion of the work. The first, which relates to "Congenital imperfections and malformations," is full of interest both to the physiologist and surgeon; and here, as in other parts of the volume, we have been much pleased with the able manner in which the author keeps up the practical character of the book. After describing the condition of the testis when, unfortunately, it remains in the abdomen until to the age of puberty, and pointing out that the organ may nevertheless be developed to the full performance of its functions, he introduces some excellent remarks on the propriety of arresting the progress of the testicle towards the scrotum in those instances where it seems disposed to move during the adolescent period. Unless the organ has made advances in very early life, there is every probability that it will not pass fairly into the scrotum, and hang loose and free as in the perfectly formed man. Mr. Curling has well pointed out the danger of such a condition, both with reference to the "liability of the gland to injury and disease when retained in the groin," as also "the tendency to produce rupture." A rupture under such circumstances would differ in no material respect from a congenital one; and to obviate all such annoyances and dangers, our author recommends the use of a truss on the groin, to pre-

vent the testicle passing into the inguinal canal. In such practice we are of the same mind; and should the gland not appear before the age of twelve years, we should unhesitatingly advise the application of a truss on the first intimation that any movement was about to take place. Such an indication would be a fair proof that the organ was well developed, and the patient or his friends should, under all the circumstances, rest contented with things as they are.

In the chapter on hydrocele, Mr. Curling has probably done more for the practical character of his work than in any other portion of it; and as it would be impossible for us, with our limited space, to follow him throughout the whole of the sections, we feel bound to award our approbation, in the strongest terms, to most parts of this chapter. Where so much has been done for a single disease, it would be hard to find two men who should agree on all; but the general tenor of our author's doctrines are, in our opinion, such as no one can dispute. We select the following passage as an average specimen of the style, and our practical readers will at once perceive the value of the quotation: —

"To distinguish simple hydrocele from malignant disease of the testis is not difficult, unless the parietes of the sac containing fluid be much thickened. But when the cyst is so thick and dense as not to admit the passage of rays of light, a careful examination is necessary to enable the surgeon to form a correct opinion. Like hydrocele, the diseased testis may present a tumor of an oval form, which has commenced at the lower part of the scrotum, and has formed gradually and without causing pain. It may also fluctuate indistinctly, and remain of uniform size under pressure, and in all positions; and the spermatic cord may be felt above it in its natural state. In lightly balancing, however, the tumor in the hand, the diseased testis feels heavier than a hydrocele; and its external surface is seldom so even and uniform as, nor does it often assume the pyramidal form of, a hydrocele. On pressing the part occupied by the testis, if the tumor be a hydrocele the usual pain is experienced; whereas if it be a malignant swelling of a large size, the disorganisation is attended with loss of the natural sensibility of the gland. If the slightest transparency can be detected on inspecting the swelling through a tube in the manner explained (and I have not met with many cases of hydrocele in which transparency could not be perceived when the tumor was examined in this way), all doubt becomes removed. But in an obscure case the surgeon might introduce a grooved needle or a trocar into the swelling, when, if the case be hydrocele, the escape of fluid would at once manifiest the nature of the disease. I once met with an indolent tumor of a small size in the scrotum of an old man, which was so irregular and uneven, felt so solid, and weighed so heavy, that it was impossible to determine exactly whether the swelling was occasioned by a morbid enlargement of the gland, a hæmatocele, or a hydrocele with the sac unusually thickened and indurated. The age of the patient was such as to put an operation out of the question. He subsequently died of disease of the chest; and, on examination, I found the tumor to consist of a hydrocele, the sac of which was cartilaginous and much thickened, and the contents a soft oleaginous kind of substance, consisting chiefly of cholesterine. The nature of such a swelling could only have been clearly ascertained by a puncture. The difficulty of diagnosis, in cases of cartilaginous thickening of the tunica vaginalis, has been attested by Dupuytren. In a case of enlargement and induration of the left testicle attended with lancinating pains in the groin and loins, and much emaciation, symptoms expressive of scirrhous disease, and unaccompanied with any sign indicative of hydrocele, or scrofulous or venereal disease, this distinguished surgeon, to avoid all chance of error, made an exploratory puncture. The result showed the prudence of this precaution; for, instead of schirrus, the case was found to be a hydrocele, with cartilaginous thickening of the tunica vaginalis."

There is an excellent historical sketch of the different methods of effecting a radical cure; and, as might have been expected, Mr. Curling gives the preference to injection as a general practice, but at the same time points out examples where the method fails; and in such instances he seems to recom-

mend the seton, or incision, as the ultimate resource. It will perhaps be best to let the author speak for himself on the subject:—

"A careful examination," he says, "into the merits of the various modes of effecting the radical cure of hydrocele, fully establishes the superiority of the treatment by injection. The great error formerly committed by surgeons in endeavouring to excite a high degree of inflammation arose from a mistaken view of the object to be attained; for not perceiving that the exundant secretion could be arrested by altering the action of the vessels of the part, they thought it necessary to obtain the obliteration of the natural cavity, which, moreover, they endeavoured to effect by producing suppurative inflammation of the membrane, instead of by the milder process of adhesion. In recent days, surgeons have sought to improve the treatment of hydrocele by reducing the amount of inflammation to the lowest possible standard, and have nearly fallen into the opposite error of suggesting plans too mild to be efficacious and sure. Injection has now been largely tried in this and other countries; and experience warrants us in asserting that though it is not an infallible remedy, of all the plans hitherto practised it combines the greatest number of advantages. The pain attending it is slight; its effects are mild, and at the same time tolerably sure; if properly performed, it is free from danger; and it frequently succeeds without altering the natural condition of the parts. I know it is a question whether the cure by adhesion, though less perfect than that in which the disposition merely of the vessels is changed, is not upon the whole preferable. In the latter there is a possibility, if not a probability, of a relapse at some future period, many of the causes coudncting to hydrocele still remaining; whilst the inconvenience produced by an impediment to the free movements of the testis, in cases cured by adhesion, is regarded as too trivial to be any disadvantage. But, in the absence of data showing the degree to which the disease is liable to return after the cure without adhesion, I feel perfectly satisfied with such a result, and much prefer leaving a patient exposed to the doubtful chance of a relapse, than subjecting him to severer treatment in order to make sure of exciting sufficient inflammation to secure adhesion and obliteration of the sac. Injections, however, are not capable of effecting a cure in every case, nor are they adapted for every constitution. The judicious surgeon, therefore, whilst resorting to them as his ordinary remedy, will be prepared to avail himself, in particular and difficult cases, of other means more certain in their effects, such as the seton and incision.

In his own practice Mr. Curling has used lime-water as an injection, in preference to the dilute port wine recommended by Sir James Earle, or any of the numerous fluids which have been used for the purpose. He does not claim any peculiar virtues for this injection, and perhaps the most that he says in its favour is to this effect:—"Though a mild injection, it usually excites sufficient irritation to cure the disease; and I have rarely had occasion to resort to fluids of a more stimulating nature."

We are of opinion that Mr. Curling has not done full justice to the still novel method of using iodine injections. He states that "these were first tried by Mr. Martin, a surgeon in India;" and that in the Native Hospital in Calcutta, during a period of little more than seven years—from March 1832 to December 1839—2393 cases were subjected to this treatment, wherein the failures were rather under one per cent. The result he regards as "remarkably successful;" yet "I much question," he says, "whether this injection possesses such superior advantages as have been represented by many who have employed it:" "it is a valuable and efficacious mode of treatment, *and perhaps as successful as any other injection which has been resorted to for the cure of the disease.*" Velpeau, Ricord, and others on the continent, strongly advocate the use of iodine injections, and the practice is becoming common among our own surgeons. Mr. Busk, of the Dreadnought, and "several" of Mr. Curling's "medical friends," who have tried iodine injections, have given their assurance that, "though usually successful, they did not answer better than port wine;"—and, for his own part, Mr. C. states that "he has found injections of lime-water answer so well, that he has had no inducement

to make trial of new remedies:" yet what performer with solutions of port wine, alum, zinc, spirits of wine, with warm or cold water, air, chlorine gas, or lime-wter, can adduce any thing like the success recorded of Mr. Martin's practice? We recommend Mr. Curling to give Mr. Martin's method a fair trial, and that he with others will bear in mind, that success in altering the condition of the tunica vaginalis was not the only reason that weighed with Mr. Martin in laying a statement of his practice before the profession. The *smallness of the quantity of fluid* necessary for the due performance of the operation was particularly alluded to by that gentleman, as a safeguard against an accident which undoubtedly has occurred but too frequently, viz. injection of the fluid, port wine or any other, into the cellular tissue; and, moreover, *permitting the small quantity of fluid to remain in the bag of the hydrocele*, was another feature in the practice alluded to which should not be overlooked. We are too familiar with the effects of port wine in the cellular tissue of the scrotum, and what might be the effects of lime-water in a similar position, we shall not stop to inquire; but if, after giving any single practice, or all the methods known in Europe, a trial equal in amount to that whereby the iodine has been tested, and Mr. Curling still goes no further than the luke-warm approbation, that the practice is "perhaps as successful as any other," &c. (which words we ourselves have put in italics in the quotation in the preceding column), then shall surgery in all parts of the world have to boast of a success in the treatment of hydrocele hitherto unknown in the art. We confess that we have our suspicions when we hear of wonderful feats performed by native surgeons, in parts of the world where civilization has scarcely more than a footing; but it must be borne in mind, that though Mr. Martin was "a surgeon in India" when he tried this practice, he occupied a conspicuous position in Calcutta, and is now, we are happy to say, in London amongst ourselves, in honourable retirement, from a long, laborious, and eminently useful course of public service in our Eastern empire.

The sections devoted to "Congenital hydrocele," to "Encysted hydrocele of the testis," those to "Hydrocele of the cord," and especially that wherein "Complications of hydrocele" are considered, are all worthy of careful perusal by the practical surgeon; and the chapter on Orchitis is equally deserving of notice. Here no point of a useful character has, in so far as we can perceive, been omitted to be noticed; and the sixty pages on this very common malady may challenge comparison with any other in the volume.

Mr. Curling, we observe, is more than inclined to dispute the ordinary doctrine, that injections in gonorrhœa are a fertile source of swelled testicle; and it seems evident that the members of the profession are less afraid on this score than they were wont to be, for we know that the practice of using injections in gonorrhœa is becoming much more common than it was lately; and though we believe that in some instances the "inflamed cod" is the result of such treatment, we agree with Mr. Curling in recommending a more frequent and judicious use of this remedy for gonorrhœa.

The modern practice of compression, as introduced and recommended by Dr. Fricke, of Hamburgh, receives the full approbation of our author; and though we were long loath to try it, we now freely profess our allegiance, and declare our conviction, that there are few cases of hernia humoralis, whether in the acute or chronic form, which do not readily yield to the careful application of straps. Mr. Curling gives excellent instructions in regard to the mode of using them.

The chapter on "Sympathetic and Functional Disorders of the Testis," calls forth our especial admiration. Throughout the whole volume Mr. Curling has evinced a manly style of treating all moral subjects which may be deemed professional at the same time; and though we question his ethicks on some points, we hesitate not to say that there is no single page which might not with propriety be laid before the youngest in the profession. In no part does our author shine more in this respect than in the chapter referred to. Here the subject of spermatorrhœa, which has lately attracted so much attention, is ably treated in a professional point of view, while he has carefully eschewed mixing his name up with those disgusting controversies which have lately

disgraced the pages of some of our medical hebdomadals. *Ne sutor ultra crepidam* might well be borne in mind by the parties alluded to, and we are of opinion that Mr. Curling has kept himself admirably to the limits of his own subject.

In the third part of the work, which is devoted to Diseases of the Spermatic Cord, we find little requiring particular comment. Perhaps the chapter on Varicocele is that which will attract most attention. The improved modern methods of dealing with the enlarged veins are all alluded to, and the results are shown to be such as to encourage further trials of some of the methods of obliterating these vessels. They, moreover, in our mind, serve to lessen that dread of surgical interference with veins which may truly be said to have been the bugbear of modern practice; for it seems that these vessels may be treated with compressors and ligatures with as much impunity as on the leg, where they have been so extensively destroyed within the last ten years. We are glad to see that Mr. Curling disapproves of the method of removing a portion of the skin of the scrotum in the treatment of this affection, for notwithstanding that it had the sanction of Sir Astley Cooper, and that it has been done by Key, Bransby Cooper, and other good surgeons, it has appeared to us almost as unreasonable as if we were to propose removing an elliptical portion of skin from over the course of the linea alba, to cure obesity.

We rise with pleasure from the perusal of Mr. Curling's work—not that we are glad at having arrived at the end of a task which it was our duty to perform, or because in the volume there is, as there must needs be in all professional works, much that is already familiar to the initiated—but because we can heartily recommend it to the practical surgeon. It would be folly to institute a comparison between it and the quarto volume of Sir Astley Cooper. The text is, in almost every respect, up to the present day; it embraces more subjects than the work of the deceased Baronet, and if it wants the imposing bulk and beautiful plates in the volume alluded to, it makes amends by its more portable and less costly form, while the graphic skill of Mr. Bagg has left little cause for regret at the absence of coloured illustrations. Mr. Curling's work does honour to himself, to the name he bears (Blizard), and to that institution which fostered his early professional career.

MEDICAL GAZETTE.

Friday, August 9, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, AND SIR JAS. GRAHAM'S MEDICAL PROFESSION BILL.

We are as miserably ignorant of law as counsel usually and notoriously are of the probable issue of the suits in which they engage. We only know, that ever since the time of Henry VIII. and Elizabeth, there has been great jealousy in the minds of the Commons of England of every thing in the shape of Royal Charters, and Letters Patent, conferring immunities and privileges on particular companies and individuals; and this to such an extent, that even the old charters of the Universities of Oxford and Cambridge were held to require confirmation by Parliament to render them valid and legal.

Sir Jas. Graham has shown a singular degree of shyness in regard to his Bill for the regulation of the medical profession. It was positively to have been laid on the table of the House of Commons on Tuesday last; but Tuesday came and went without the bill seeing the light;—the promise made for something like the tenth time during the present session to produce this bill was again not kept. We trust the Hon. the Home Secretary has no purpose to leave in the lurch those at the Royal College of Surgeons who have acted so far on the faith of his promise. Unless the supplementary Charter to that body be confirmed, we apprehend that the late election of Fellows which took

place in Lincoln's Inn Fields will scarcely hold good in law; and, indeed, when we look back upon the general features of that election, and survey the constitution of the electoral body, bearing in mind at the same time the object proposed in the recent changes, we almost trust that the Charter in its present shape will not be confirmed.

We, for our own part, were content with the old constitution of the College of Surgeons. There was a general feeling in the professional mind, however, that it required to be made more popular. The self-election practised by the Council, in particular, was viewed as highly objectionable; and it became imperative on that body to abandon this privilege. But where were they to place it? In the hands of the members at large? This would have been the natural, the easy, the obvious mode of proceeding; but the Council appear to have shrunk from this large measure of enfranchisement; wherefore, we own we do not understand; for a more sober-minded, more deferential, and more respectable body of men than the great majority of the members of the Royal College of Surgeons, does not exist on the face of the earth. There may be some half-dozen noisy demagogues or so, and as many blackguards, among us; but the spirit of the medical profession is essentially respectful, essentially conservative; and the popularity-mongers would have been lost in the legion of sober-minded middle-aged men—men between 30 and 50—who give its stamp to the profession in the world, and in whose hands is almost the entire medical practice of these countries. The Council shrank from the large, and, we venture to say, the merely *fair* measure—for every member of the College of Surgeons became so in virtue of the same amount of general and professional education, and after having honourably acquitted himself under the same test of competency—and there was nothing for them but to contrive a distinction in grade, or to make a difference in the denomination of its members, to one of which should be confided the electoral privilege, whilst from the other should be withheld all voice in the management of affairs, whether in person or by representative.

We have already said, that we hold the idea of grade in the several branches of the profession of medicine to be inadmissible: different grades of physicians seem to us absurd; so do different grades of surgeons: he who is a physician or a surgeon can be, in our eyes, nothing more and nothing less. We therefore, with great deference to the many able men who are at this time members of the Council of the Royal College of Surgeons, venture to differ from them on the very original of the idea which has guided them: we cannot help viewing with alarm the distinction of the members of the College of Surgeons into Fellows and Licentiates; it seems to us as if a fatal stab were aimed through this, first at the prosperity of the Institution itself, with its noble appendages of Museum and Library, and next at the character and standing of the surgical profession at large in the public mind.

And then, if we descend from the theory of the affair to the practice, to the working of the machine, we cannot but see it as radically defective; the whole thing is so much out of joint that it must almost of necessity come to a stand-still. Who constitute seven-tenths of the potential electoral body of the College? The staff in esse or in posse of the London hospitals alone, one of these having, it may be, eight or ten voices out of the hundred which seat members of the Council. We do not say that these gentlemen are not the most proper men in the world to be entrusted with the powers just put

into their hands; we believe them to be in every way qualified by social rank education, and knowledge, duly to discharge the very highest duties; but they do not constitute the medical profession, they are a very small fractional part of the whole number who are legitimately members of the Royal College of Surgeons. One hundred and twenty of the very best still leave several thousands as good as they without equal privileges.

The Council ought to take heart from the behaviour of the mass of the members of the College ever since the recent changes were announced. The Council cannot be ignorant of the general—we had almost said the universal—dissatisfaction engendered in the mind of the medical profession, members of the College, by the new arrangements. But by the general body this dissatisfaction has been shown as is an indignity received from an intimate or confided friend—more in sorrow than in anger, more as something unexpected and uncalled for, and to be brooked in silence rather than vented in complaints. Without disparagement to those who have signed the address of remonstrance which purports to issue from the so-styled Medical Protection Society, we do not find the names of a large number of those whom we have been accustomed to regard as the representatives of all that is most respectable in our profession; we miss the names of several worthy men as taking part in the proceedings of late, who lent the society their voice and countenance at first. A sense of unworthy usage locked up in the minds of a majority is not insignificant; it ought not to be left to rankle there and by and by to find a tongue that may be dangerous.

The choice of Councillors on the 31st ultimo satisfies us that a great extension of the electoral franchise is indispensableit; cannot be left restricted to its present narrow limits. The character, and conduct, and social position of at least 300 additional respectable men will be required to give the system just instituted any chance of receiving the sanction of the general body of medical practitioners.

The bye-laws and ordinances, too, that regulate the admission to the Fellowship, appear to require revision; they are conceived in so stringent a spirit that they scarcely leave any man who has not a London medical education eligible to the dignity. More than this, they make it impossible for present members to achieve the dignity. This has already been perceived by gentlemen in various departments of the public service especially; we have heard of remonstrances from the Army and Navy medical departments, of petitions from the East India Company's medical officers, and we have just received the following one from the medical officers of the Horse and Foot Guards:—

To the Honourable the Commons of Great Britain and Ireland, in Parliament assembled, the Petition of the undersigned Medical Officers of the Horse and Foot-Guards,

Humbly sheweth,

That the recent Charter granted to the Royal College of Surgeons of England, a copy of which was lately laid on the table of your Honourable House, presses with peculiar severity on the officers of their department, nearly the whole of whom are by it deprived of those privileges they have hitherto enjoyed in consequence of an undue precedency granted to surgeons in civil life, whilst they will also be deprived in future of the hope of succeeding to offices of honour and profit in the College, whatever may be their ability, or the eminence they may have acquired in the service of their country.

Your Petitioners now appeal to your Honourable House in full confidence that their claims will be fully and favourably considered.

Your Petitioners whenever employed in the service of their country, either at home or abroad, have always endeavoured faithfully to discharge the duties

of their station, and have used every exertion to improve the practice of their profession.

Your Petitioners respectfully, but earnestly submit, that they should not, in consequence of being employed in the Public Service, be considered to have forfeited their civil rights as Members of the Royal College of Surgeons.

Your Petitioners humbly pray that your Honourable House will not confirm any measure depriving them of their hitherto acknowledged rights and privileges, without giving them an opportunity of being heard by themselves or counsel either at the Bar of your Honourable House, or in such other way as your Honourable House may be pleased to direct.

And your Petitioners, &c.

The task which the Council of the College of Surgeons had to perform became a difficult one from the moment that they took restriction into their scheme as an element. No system can by possibility stand, at the present day, into which a large measure of liberality does not enter. This infusion we miss in the new constitution of the College of Surgeons; and we venture to predicate, with full assurance of fulfilment to our vaticination, that it is altogether without the elements of even the ordinary stability of sublunary things, which ought to extend at least over some half century or so.

What precedes was written and in types, as may be conceived, before Thursday at noon, when we had the proof to revise, and a copy of the *Times* newspaper, in which we find that Sir James Graham has actually and at length laid his Medical Profession Bill on the table of the House of Commons. We can only lay the abstract of the Bill before our readers this week; next week we trust to be able to supply the provisions of the proposed act in detail. Our comment on the state of affairs at the College is not essentially altered by the introduction of the Home Secretary's measure, so that we leave what we had written unchanged. The following is the *Times'* abstract of Sir James Graham's Bill:—

"Sir J. Graham moved for leave to introduce a bill for the regulation of medical practice. He was aware that some great authorities, among whom was Adam Smith, were adverse to any legislative interference with the medical profession; but the Legislature had, in fact, interfered from time to time, and the anomalies under the now subsisting law were many and gross. The bodies possessing power to grant a title to practise were extremely numerous, and required some central control. At present there was a sort of contest among them, in which they endeavoured each to attract students by underbidding one another. With respect to the mischiefs of quackery, he would not attempt to deal with them. There was a disposition among mankind to be cheated, as well as a desire to make money by cheating; and he was satisfied that no legislation could effectually combat these tendencies of human nature. He would therefore introduce no restraint upon medical practice; but he would endeavour to furnish some guarantee to the public, by confining public offices, medical and surgical, to educated practitioners, registered under the provisions of this bill. He proposed a general repeal of exclusive laws and charters, even the abolition of the exclusive right of the College of Physicians to grant licenses. His bill would establish a Council of Health of eighteen members, to be always sitting in the metropolis, of which he explained in detail the constitution, and in which he meant to vest a controlling power over the present licensing bodies. And he would insert a clause disabling all persons not registered, except those already in practice, from recovering any professional charges by law."

PENSION TO THE WIDOW OF SIR CHARLES BELL.

No one who knew Sir Charles Bell did not see him heart and soul in anatomy and physiology; he was the *beau ideal* of a cultivator of these elementary sciences. Sir Charles had also good taste in the arts of painting and design, and had moreover a ready hand with the pencil and the brush. The plastic arts were, in fact, the subjects upon which he loved to expand, and to which he made especial application of his science as a philosopher. He had no taste for the details or for the practice of his profession as a

surgeon—he even felt the advent of a patient as a sort of intrusion upon his privacy: however much he might have been in want of the guinea which the sick man had in his pocket for him, it signified not; he was busy cogitating the heads of his next lecture, or engaged with some point of profitless interest to himself, or to abstract science. He therefore always gave patients grudgingly the five or ten minutes which were necessary to win the money that was to keep the wolf from the door for the day. Of course such a man had no love of gold; of course he took no pains to win it; of course he lived poor, and when he died he left no provision for those, or for the one who had loved and cherished him, and shared his joys and his sorrows, and sweetened his labours, and been true to him through good report and through bad report, and watched with him to the last, and finally closed his eyes for ever.

It is much to be regretted that in this country there is no provision with suitable occupation for men of the stamp of Sir Charles Bell. England would gain glory by some arrangement of the kind. Sir Charles Bell was not fitted to scramble for the daily bread; and society, doing simple justice to herself, would have done wisely to have put him beyond the necessity of scrambling. He lived honoured, however; he made the world his debtor, and he earned a deathless name; but he lived, and he died, poor. Sir Robert Peel has had the honour of providing for his widow, by placing her on the pension list: Dame Maria Bell there stands for the sum of £100 per annum. A gentlewoman who has a clear £100 per annum is always independent, but we own we should have liked to have seen the sum larger; £200 would have been more like evidence of a due estimate of Sir Charles Bell's services to science. Miss Ann Drummond, sister of poor Mr. Drummond, who was so foully assassinated, has £200 per annum; and Dame Florentia Sale, wife of the hero of Jellalabad, has £500 per annum. These pensions are right and proper; we only do not like to see science standing at the bottom of the scale. Miss Drummond cannot have depended on her brother more completely than Lady Bell did on her husband; and if £200 seemed fair to the spinster, surely the same sum was not more than might have been awarded to the widow.

We are happy to see another zealous labourer in the vineyard of science—Robert Brown—properly considered in the list of pensions lately made public.

CLINICAL INSTRUCTION AT HANWELL LUNATIC ASYLUM.

Dr. Conolly, the senior and superintending physician of Hanwell, when Professor of Medicine in University College in 1830, drew public attention "to the importance of making medical men as familiar with disorders of the mind as with those of the body, and particularly dwelt upon the necessity of rescuing lunatics from those whose interest it is to represent such maladies as more obscure and more difficult to manage than any other." He moreover expressed a wish "that a clinical school might be established in every public lunatic asylum, in which, under certain restrictions, medical students might prepare themselves for their future duties to the insane."

In furtherance of these enlightened views, this truly accomplished and consistent man, now that he has the power, has proved the sincerity of his inclination. During three successive years, with the sanction and countenance of the Middlesex magistrates, he has given a short course of clinical instruction and lectures to a limited number of medical practitioners and pupils, on the more prominent subjects of mental maladies, and on the management and safe custody of lunatics.

The plan of the course has been as follows:—Tickets of admission were sent to the principal metropolitan hospitals—two to each of the larger, and one to the smaller, to be given to those pupils whom the authorities of the respective establishments might select. Qualified practitioners were admitted on application. These gentlemen went to Hanwell on Saturday, by the 9 A.M. train, and having entered their names in a book at the lodge, were met by Dr. Conolly and the assistant physicians Dr. Begley and Dr. Davy, who, to their great honour, entered most cordially into the plan. Dr. Conolly then made some preliminary remarks on the cases which had been recently admitted, or such as presented any very noticeable circumstance, and finished by directing attention to the cases in the asylum which were most fitted to illustrate the topic which he had chosen for the lecture of the day.

From 10 A.M. to 12, the assembled class, dividing into three portions, each accompanied by one of the physicians, was occupied in going round the building, making observations for themselves, and more particularly on those patients to which their attention had been particularly directed in the open-

ing remarks. On their return a substantial luncheon was liberally provided in the Committee room of the Asylum. At 1 P.M. the class reassembled in the private apartments of the Governor, where Dr. Conolly delivered his lecture, and which was always concluded in time to enable the gentlemen to return by the 20 minutes past 2 P.M. train to Paddington.

The private nature of the course, its delivery *sine mercede*, and the hope that its details will ere long be communicated to the profession in an authentic shape by the pen of its able and accomplished author, restrain the writer of this notice from alluding to more than the topics of the lectures; but he cannot forbear to record his thanks to the professional staff and authorities of the Asylum for their courtesy, and to express the pleasure which he felt, in common he believes with all present, in the interesting hours he spent at Hanwell.

The topics chosen by the lecturer were—An exposition of the principles and advantages of the system of non-restraint pursued in the Asylum; Mania in its recent and chronic form; Melancholia; Insanity combined with epilepsy; Puerperal insanity; General paralysis (a disease, Dr. C. remarked, that had not been met with except in connection with insanity, and which was first described by Messrs. Bayle and Calmeil, as observed by them at Charenton); general observations on the various forms of mental maladies; and one lecture on the principles which should regulate the construction and general management of lunatic asylums. Dr. Conolly, in conclusion, acknowledged and thanked the Governor and resident medical officers for their invariable kindness and attention, and for the constant desire they evinced to forward his views on this and every other occasion. He stated that he had left out nearly all points requiring lengthened discussion. He had said very little upon the morbid anatomy, because experience had made him less capable of connecting any particular form of insanity with any particular lesion than he had fancied himself capable of doing when he had not seen much practice, but had derived most of his knowledge from reading. There were, indeed, several forms of mental affection, such as incoherence and imbecility, comprehending a vast range of maladies, to which he had scarcely alluded; while dementia, a state resembling idotcy, but differing from it in not being congenital, he had not touched upon—indeed, the subject of insanity was so vast, that "the general treatment affected almost the whole range of human action, and the whole sphere of human occurrences."

The night before the concluding lecture, an attempt at suicide within the Asylum led to some clinical remarks which contain many useful cautions, and will serve to lay before your readers as an excellent specimen of the valuable instruction afforded by the lessons of Dr. Conolly.

This attempt, he observed, arose from a defect in the arrangements, by which the ward was left for a short time without an attendant—the effect of an order given by non-medical authority. Each ward has two attendants; but one being ill, the other was obliged to leave the ward, because it was contrary to regulations for her dinner to be brought into the gallery. In her absence a quarrel arose, and one patient getting into an ill humour, the disposition to suicide became so roused, that she evinced the strongest determination to destroy herself; and the consequence was, that the whole establishment had been kept in a state of disturbance and anxiety the whole night. The usual means were resorted to: removal to a padded room—the administration of a shower-bath—a strong dress put on, and an extra night attendant appointed. She was soothed by kindness, watching, and care, so much, that during the visit this morning she was found helping to clean the ward.

Alluding to this case during the lecture, Dr. Conolly remarked, that nothing could be more irrational than to suppose that insane patients can take care of each other. The regulations of an asylum should invariably provide for the presence of an attendant in every room. The entire executive of an asylum should always centre in one person, who should be held responsible for all the good or evil done within it. Divided authority often led to a contention for supremacy, or, at any rate, the government was defective, in consequence of persons giving particular orders, which were incompatible with the general scheme of management. In this instance the order regulating the dinner had rendered the more important object of the medical advisers, of never leaving the ward without the presence of one attendant, *impossible*. The consequence had been a quarrel among the patients; a suicidal one had been put into a bad humour, the whole of the patients in the ward seriously disturbed, and all the officers of the establishment placed in a state of great anxiety during the whole night. It is indeed, continued the Doctor, usually owing to the neglect of these little points that the most serious accidents occur, and produce blame to the system of non-restraint, and to the attendants, for what they themselves are rendered incapable of preventing.

At the conclusion, an address, expressive of the thanks and esteem of the class, was drawn up by the pupils, signed by every gentleman present, and acknowledged by Dr. Conolly in suitable terms.

MESMERIC SKILL IN ESCAPING FROM DIFFICULTIES.

"I FEAR I am in for it, touching my compass expenses!" M. Thilorier's expeririment of magnetizing the key by the influence of his will, has not succeeded in presence of M. Arago. True, indeed, M. Thilorier pretends that he was *neutralized* by the illustrious perpetual secretary, and having less fear, as it seems, of the neutralizing powers of M. Dutrochet, he requested permission to repeat the trial in the presence of that gentleman, who at once consented. I am not yet informed of the result. It will be matter of much regret if so brilliant a discovery be not confirmed. All the priests and all the priestesses of the magnetic faith have been in commotion upon the great news. So, they have said, magnetism again is introduced to the Academy, which despised it! There are some, however, who maintain that the story of turning a bar of iron into a magnet is but an artful ruse to lead the attention of the savants of the Academy to the consideration of other phenomena that are not less surprising. And it is unquestionable that Messrs. the magnetizers are extremely adroit, and that they extricate themselves from the most difficult situations with marvellous dexterity. Let me give you a proof of the fact.

A friend of my own, very sceptical, was one evening at a party where a somnambulist was performing prodigies; and, pressed by the mistress of the house to address a few questions to the performer, he led him to a small house among the Pyrenees, which he requested him to describe. The somnambulist desired a few additional passes of his magnetism, and commenced his description, which, as it happened, whether from accident or otherwise [one small house in the Pyrenees, for example, being very like another,] was really pretty correct.

"Sir," said my friend, "you are extremely *lucid* this evening, and I beg you to inform me further what my father has been about to day?"

"I see your father at a great distance from this," said the seer; and then he went on to narrate, from hour to hour, what the old gentleman had done during the day; entering into the most minute particulars. "And now, to conclude, he is laid comfortably in a bed of such and such a fashion."

The whole party listened with avidity, and looked into the eyes of my friend to learn whether or not the somnambulist had spoken correctly. My friend turned to the magnetizer, and said:—"There is only one slight anachronism in the tale of your somnambulist—my father has been dead these twenty years."

"Sir," replied the magnetizer, taking him by the arm, "your objection is worthless: *no one is ever sure of knowing his father!*

You will guess the burst that immediately took place among the company. My friend, it must be confessed, cut a pitiful figure, and literally found nothing for it but to beat a retreat at the earliest possible moment.—*J. Raimond, in Gazette des Hôpitaux,*

QUARTERLY TABLE OF MORTALITY.

THE deaths registered in the last quarter (ending June 30) amounted to 38,925, which is less by 7116 than the deaths in the previous quarter, and 1283 less than the average of the corresponding spring quarter in the five years 1838-42. Allowing for the increase of the town population, the mortality was ten per cent. below the average of the season.

The reduction in the mortality has been unequally distributed over the kingdom; but it has been most remarkable in the large manufacturing districts. Small-pox and scarlatina have been epidemic in the metropolis and elsewhere. The deaths in the quarter from small-pox were 425. The epidemics most frequently mentioned in the country districts are scarlatina, measles, small-pox, hooping cough, and typhus.

MORTALITY OF THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, July 27.

Dropsy, Cancer, Diseases of Uncertain Seat	108
Diseases of the Brain, Nerves, and Senses	207
Diseases of Lungs and Organs of Respiration	225
Diseases of the Heart and Blood-vessels	30
Diseases of Stomach, Organs of Digestion, &c.	107
Diseases of the Kidneys, &c.	8
Childbed	6
Paramenia	0
Ovarian Dropsy	1
Disease of Uterus, &c.	3
Arthritis	0
Rheumatism	2
Diseases of Joints, &c.	2
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.	0
Old Age or Natural Decay	53
Deaths by Violence, Privation, &c.	23
Small Pox	49
Measles	22
Scarlatina	82
Hooping Cough	18
Croup	6
Thrush	15
Diarrhœa	45
Dysentery	6
Cholera	6
Influenza	1
Ague	0
Remittent Fever	1
Typhus	37
Erysipelas	1
Syphilis	0
Hydrophobia	0
Causes not specified	2
Deaths from all Causes	1066

WILSON & OGILVY, 57, Skinner Street, London.

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ON MILITARY HYGIENE,

AND PARTICULARLY UPON

THE CLOTHING OF SOLDIERS.

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[Concluded from p. 517.]

(For the London Medical Gazette.)

The infantry cap, lately introduced, I regard as a great improvement on the old one, and it cannot, I think, be altered for the better. It is made of felt, with leather on the top; it has a large horizontal peak in front, and a smaller one behind inclined downwards, which protects the back of the head from the sun and cold, and does not appear to lead the rain within the collar down the back, as some assert; the peak before saves the face. The shape of the cap is a truncated cone, and in front is ornamented by a brass plate, surmounted by a round light tuft. It is light, and fits the head well, by reason of the conical shape adapting itself better to, and over a larger surface round the, head, in reverse of the old cap, which had a perpendicular peak, was an inverted, truncated cone—so contracted at the base as to permit only a *cord-like* extent of it coming in contact with the head to prevent its falling down over the face. The present cap combines usefulness and ornament sufficient for the general purposes of the infantry soldier; who, however, would certainly in the tropics be more comfortable with a straw hat, could he be so indulged. In North America he wears a cap suited to the country, made of fur. The forage cap is made of thick blue worsted, with the crown broader than the base, has a light tuft on the top, and is without a peak—permitting the man's eyes to be exposed to the rays of the sun and glare of light, as well as to a greater share of wind and dust, than the black, or full dress, cap. As ophthalmia rages in countries where the turban and fez cap are worn, and prevails very much in the army, not in any one colony in particular, but very generally, it would appear that want of protection from the rays of the sun, from dust and wind, in the absence of a peak to the head dress, may in some measure account for the frequency of the disease, and suggest the propriety of altering the fashion by adopting the peak. It would be deviating very much from martial notions to recommend a low-crowned hat like the Swiss in the service of the Pope, although this hat has very superior advantages.

The black leather stock, worn by the soldier, must prevent that freedom of action about the neck necessary to free respiration; and its constriction, further increased by the tight collar of the coat, is injurious to the jugular veins, by the pressure exerted upon them at the base of the neck impeding the return of blood from the head. If made of softer leather, or of horse-hair, it would, I think, answer all purposes; such as keeping the man's head up, especially if the collar of his coat was straight, and not sloped off from the base upwards, which would expose this more flexible but more salubrious stock.

The coatee of the infantry soldier of the line is made of red cloth, of thick but not compact texture. The collar is made to fit close to the neck, and is cut away from the base upwards, and bound to the neck by a hook and eye. It is single-breasted, and buttoned from the throat down, fitting closely to the body; the flaps behind are not so large as those of a civilian's coat. In England, and in cold countries, it is lined and somewhat padded. The single hook to the coatee at the throat, and cut-away collar, conduce to occasion more stricture about the neck than when the collar is straight up, and confined by three hooks, which spread the pressure over a greater breadth, and relieve the man from much tightness in one place,

like a cord. The straight collar is worn by the artillery and cavalry.

Double-breasted frock coats, like those worn, I believe, by the Austrian infantry at present, appear to be more adapted, and more certain to ensure a continued thermal comfort to the soldier at home and in many colonies, than the present coatee, which, further, is of course much too tight to permit sufficient freedom of play to the muscles of the neck, trunk, and upper extremities, and to favour easy respiration and healthy action in the skin. This coat is worn on guard at home and abroad, at many of the commanding officer's parades, and on Sundays, besides some other occasions.

The soldier's shell jacket is made of the same materials as his coat, but it is not lined, on account, probably, of the expense it would entail upon the soldier, who pays for the alteration of his clothing. This is the jacket generally worn by the soldier, both in and out of barracks. In-doors, and very generally in the barrack square, it is worn open, and exposes the chest, which is protected only by the shirt. It is single-breasted, and hooked, like the coatee, at the collar, except in some few corps, and in the cavalry and artillery. It fits close to the body, and scarcely descends to the hips, except in those regiments where smartness in dress is of secondary regard. The alterations for the better in this article of clothing would be to line it, and make the collar straight, as in the cavalry and artillerymen's dress, so as to obviate, in a measure, its stricture about the neck.

The soldier at home, and in many of the colonies, wears thick cloth trowsers, of the same texture as the cloth of his coat, in winter; and in summer white linen. For fatigue and night works in the West Indies he is served with a pair of blue serge; and in India, with the same, or blue cotton or linen trowsers. The texture of the soldier's cloth should be improved to afford greater warmth. In the cavalry and artillery the men wear better cloth than in the infantry. The black, or as it is called, I believe, grey cloth of the infantry soldier's trowsers, is of loose and perishable texture. Its colour is liable to change to brown, and is dyed by the men with solution of copperas and log-wood; often, I believe, just before parade, &c., a process which cannot be conducive to health. The black trowser is worn in winter, in wet weather at other seasons, and in both summer and winter on night duties.

The white linen trowsers, worn in summer at home, and throughout the year in many colonies, should be abolished, as quite insufficient to afford that thermal comfort necessary, in an essential degree, to the soldier on the inactive duties on guard, many spiritless drills, and the monotonous occupations of the barrack room; though the men do wear, occasionally, the black trowsers on fatigue, and in the barrack room. Exclusive of the linen being inadequate to afford sufficient warmth, its wear is attended with more evil than virtually can be assigned to the article itself, but which, of necessity, must often occur. The knapsack is made only to carry a certain number of articles, and the number of white trowsers allowed is two. These are washed once a week, and one pair is supposed to last clean three and a half days; but as this is evidently not practicable, recourse is had, before parade and at other times, to sundry spongings and partial washings of the said article of white linen, which is oftener wet than dry when again put on, as in cold wet days in summer it does not admit of being dried, and fire is seldom lighted in the barrack-room at this season, even supposing it were allowable to dry it there. The knee-cap, in particular, soils the white trowsers, which, before next parade, *must* be clean; and this recleansing is only effected by the above process.

Pipe-claying is, of course, only another mode of washing, and is a process which, when the army wore white flannel jackets, was supposed to have been productive of much sickness, and the jackets were upon that supposition, I believe, discontinued.

It is scarcely necessary to remark that white trowsers are worn in civil life only as articles of luxury, and by those whose wardrobes permit of a change on the slightest emergency—a matter impossible to the soldier. Even in the warmest climates I think it not only unnecessary for the soldier to wear white linen trowsers, but I do not think he can do so with impunity; taking his habits and mode of occupation into consideration, the idea often entertained about the effect of white trowsers in hardening the men is very dangerous, and void of reason.

The soldier wears worsted socks and strong linen shirts, both which articles, provided they are kept in repair, demand no alteration; although in hot climates calico would certainly be preferable, as in cold countries it is both warmer and cheaper.

The infantry of the line wear Blucher boots, which are, perhaps, better, and attended with less trouble, than shoes and gaiters. The only fault noticeable is that the heel is occasionally too high, and entails greater labour upon the man in marching.

The great coat is made of grey cloth of loose texture, and is so light as to weigh, on the average, when new, but five pounds. It is rather more capacious than a civilian's coat, and is so fashioned in order chiefly to go over the man's pouch. The collar is upright and loose. It is buttoned by a single

row of metal buttons, and is altogether a sorry material to issue only triennially, inasmuch as the wear and tear reduces it, on the average, to a worthless quality long before the expiration of the period assigned for a fresh issue. It has a cape, and it is slightly lined at the upper part. Its perishable nature requires serious consideration.

Soldiers do not possess that physical perfection of person which can warrant the adoption of a universal standard in their clothing. Individuals differ from each other so widely in their external conformation, that it seems little less than absurd to establish a rule of quantity and measure in regard to clothing. Every one knows, however, that the clothing of the army is manufactured by mathematical calculation. Men of five feet seven inches have coats and trowsers of a certain width, length, &c. The scale of measurement comprehends six sizes. The clothes, thus made upon abstract principles, are, however, often altered to fit the men better, when sent to their respective corps. The abstract principle is nevertheless preserved in the army. A man with a spare frame and delicate constitution is clothed in the same manner as he with the athletic frame and sound constitution. Again, a man with a chronic cough, difficulty of breathing, palpitation, &c. has his coat made as tight as he who can bear it so with comparative impunity.

The dress of the soldier is generally unfavourable to muscular action. In addition to this, the nature of the duties of a soldier does not admit of much variety in muscular action; and the same want of varied motion which is the cause of muscular weakness is still further aggravated by the tight pressure of the coat, straps, and belts, interrupting the play of the muscles. During the formal walking up and down on sentry, the legs only are called into activity. Without noticing the injury going on in the organs of respiration and circulation from the same and other causes, debility of the body, and diminished tone of all the animal and vital functions, are the consequences. On the other hand, excess of exercise is often no less an injury to the soldier. On field-days, at punishment drill and on march, when he carries his pack, several rounds of ammunition, firelock, and belts, he is put to very violent exercise, and diseases of the heart and large vessels are the consequence.

That specific deteriorating influences in the life of a soldier exist, and that the tendency of these influences is to produce organic diseases, more than other external causes, cannot, I think, be doubted*. These predominant influences are conspicuously observable in a particular corps, whose circumstances are but little altered, and who are not exposed to a superior cause (so to speak) of disease.

It is in the Foot-Guards that this power is most ascendant, and where, in the absence of epidemic and endemic influence, the tyrant prevails and usurps complete dominion, and suffers no other power to appear. This body of men is not exposed to the causes which produce fevers and dysenteries, which are the chief causes of mortality in the tropics and elsewhere. It is, however, nearly as much exposed as the community at large to the diseases of this country, from which it suffers nearly in the same proportion; but the men composing it mostly die from the diseases produced by influences which predominate with them: at the corresponding rate soldiers of the line die from yellow fever, or other diseases of epidemic or endemic type, when exposed to the causes thereof. The same influence is again seen in the case of the black troops in the West Indies, where the white troops are more under the power of epidemic and endemic diseases, by reason of the climate not being so congenial to their constitutions as to those of the natives of the tropics. The black troops suffer much from diseases of the chest, from the causes thereof in soldiering (to use a familiar military term) predominating over those of fevers and dysenteries, to which they do not yield so soon as to the influence which military life exerts upon their frames. Although the Foot-Guards wear waistcoats of red cloth, and are so far better protected than the line, it is no argument that good clothing does not protect men from consumption, when we know that these troops die much oftener from that disease than those of the line. The duties of the Foot-Guards are always the same, allowing on the average three nights a week in bed; whereas those of troops of the line are often much lighter, both in large and small garrisons. In the latter, where a barrack-guard only is required, the men are often for a week or more in bed every night—a circumstance of material consideration, when the tight clothing, interrupted sleep on hard boards, &c. are taken into account. Again, soldiers of the Foot-Guards die from the gradual deteriorating influence of a military life, which is seen to produce debility, premature senility, and to develope phthisis; when, on the other hand, the soldiers of the line die from the same cause more or less, but greatly also, from diseases of epidemic and endemic character, and before the deteriorating influence which affects the Foot-Guards has had time to complete its work; though this deteriorating power places them in a much less favourable state to recover from disease of any kind than they

* It must be understood that it is from their *degree* and *kind* that these influences are termed *specific*.

would be, were they differently situated. I conceive the comparatively little exercise taken by the soldier in general, the impurity of the air of his habitation, and often the deficiency of light in it, sufficiently powerful to produce the great extent of consumption that prevails in the army, when taken in conjunction with the faults in dress.

The circumstances under which I believe the present mode of dress of soldiers to act most destructively are when the men are already labouring under organic disease; and once organic derangement is established, I consider them to be of all others the most difficult afterwards to protect from a recurrence of attacks, and from extension of disease. A man with pleuritic adhesions, deposition of tubercles at the apices of the lungs, or with thickening of the mucous membrane of the bronchial tubes, encased in tight uniform, with cross belts and knapsack, must suffer from want of due expansion of the chest; the respirations must make up in rapidity and frequency what the lungs want in capacity. The respiration becomes *puerile*, and tubercles are quickly deposited, or, if already present, their rapid softening follows.

"The anatomy and functions of the skin have been made the subject of much research by modern physiologists, who have demonstrated that it has a very important part to perform, both in the animal and vegetable kingdom, that it is a powerful auxiliary to the lungs in oxygenising and in vivifying the blood, and an extensive emunctory by which the fluid materials that have performed their duty in the economy are eliminated. The importance of its being kept continually in a clean and perfectly free state, in order that it may be able to perform these various functions, has been vividly felt by scientific writers, and has been equally vividly expressed by them."

The condition of the soldier is such, although he practises certain evolutions in the course of the day and week, as to be unfavourable to due performance of the functions of the skin. It is familiar to all that retention of clothes on the person for a long time favours the accumulation of dirt thereon. The cause of this is, probably, the want of proper circulation of air round the body to promote the evaporation and dissipation of the cutaneous secretions. On guard, the soldier retains his clothes for two days and one night, with little variation. When confined in the guard-room for misconduct, he remains without change for periods varying from twenty-four to seventy-two hours, and probably longer. Indeed, when waiting a court-martial, he is often a week there. The most superficial observer cannot have failed to remark how soon dirt accumulates upon the person of the soldier, whose close-fitting dress prevents the contact of air about his body, and, with what has been advanced above, conduces to irregularity in the function of perspiration. The condition of things termed "checked perspiration," said to be produced chiefly by sudden transition from heat to cold, &c. is much favoured in the alternations of violent exercise and passive inaction at drill, and on sentry, especially in cold weather. To suppress evaporation, or the physical process of perspiration, extreme humidity, and a high external temperature, are essential; and this condition of atmosphere is found in the sciroc wind in the Mediterranean, and in the torrid zone, where the quantity of vapour contained in the air is much nearer the point of saturation than in the temperate zones, and in consequence of which evaporation is much less than might be supposed from the high temperature. By virtue of this state of atmosphere, again, there is an increase in the perspiration by transudation, which depends upon causes inherent in the living economy, but which may be modified by external agents. Supposing, further, the relative temperatures of the air and of our bodies to be such as to prevent evaporation, there is still here a state of things unfavourable to the healthy condition of the body. According as the sweat becomes abundant, it spreads over the body and forms an external layer, which, intercepting the contact of air with the skin, prevents transpiration immediately from the body. That derangement in the function of perspiration by the influence of physical agents is favoured by exposure to relative cold and moisture on sentry, during inspection of the men on parades, even during the course of a drill, when not active, and likewise at night, especially during sleep, when the power of regenerating heat is least strong, must be obvious to all.

Having attempted to show the ill effects of defective clothing upon the soldier's frame, and how little less hurtful it is when wrongly made, I have now, besides what I have suggested should be altered in the articles of dress already in his possession, to propose that the Infantry soldier should be supplied with further articles of clothing. To this I know strong objections will be raised, and amongst others will be the want of capacity of the knapsack (already too weighty) to contain them. It is not the general custom for the Infantry of the line to wear waistcoats and drawers of any material. By the clothing-warrant, the Light Dragoons and Cape-Mounted Riflemen only are ordered to be supplied with flannels; but it is the custom with the Cavalry generally to wear the same, and, indeed, even drawers. In a former part of these observations I expressed a doubt as to the troops at the Cape wearing flannel; the clothing-warrant orders the

native corps to wear it, and I have since learned that it is a very general habit among the Infantry to adopt the custom of the colony. In the Infantry throughout the army, it is also more or less worn, either by will or by recommendation of the medical officers.

The proportion, however, wearing waistcoats and drawers is small, and even this proportion is not invariable in their *constant* use—many throwing them off in summer, and others failing to re-supply themselves when necessary. As these articles are worn by some, it is reasonable to believe that with little deviation in the disposition of the soldier's kit he might easily be always in possession of a waistcoat and a pair of drawers, or two waistcoats. I have heard that a regiment, lately arrived from Canada, had in use flannel shirts in the West Indies. This approaches to what I should wish to see adopted, but falls short of many desirable emendations in the physical and material relations of soldiers. Better, then, to fulfil what physiology and the anatomical structure of the frame indicates, under circumstances of the great perversion in the dictates of nature which obtain in the life of a soldier. I think he should be supplied with additional clothing, according as the nature of climate and duty varies, and that the alterations already proposed, or such others as meet the principles implied, should be submitted to experiment. When the circumstances under which the influence of dress falls shall be modified, the causes of disease will also be so far removed.—A man will suffer less by remaining in the same clothes for twelve than twenty-four hours; by continuing in a tight dress under arms for an hour than for three hours; or when exposed to cold on sentry, or elsewhere, for an hour, or half an hour, than if he was so exposed for two hours. It is presumed that the soldier's clothing will undergo a change sooner than these circumstances; which, however, are not at all uncontrollable. Though, doubtless, very imperfectly demonstrated, it is supposed nevertheless to be not too much to infer from the foregoing remarks, that were the soldier's clothing more abundant and less opposed to the requirements of nature, did it afford greater freedom of action to the functions of respiration, perspiration, and muscular motion, he might better be preserved from the calamities to which his mode of life exposes him at present; that if experiments were made in his favour upon the principles inculcated, it might be a step towards lessening the power of the destructive influences inseparable from his condition.

ON THE

PATHOLOGY AND TREATMENT OF OVARIAN DISEASES;

WITH CASES.

By Dr. Samuel J. Jeaffreson,
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[Continued from p. 590.]

Case VI.—*Two ovarian tumors, combined with ascites—disease of the stomach—supposed pregnancy.—Death within a year of the first symptoms of the disease.—Autopsy.*

I was sent for to see Mrs. A., who was under 30 years of age, in consultation with Mr. Eaton, on the 24th April, 1839.

The patient considered herself eight months pregnant; the breasts had enlarged and secreted milk. "Up to within the last four or five weeks she had been conscious of the movements of the child, which suddenly ceased, and then the breasts became flaccid." She suffered considerable inconvenience and dyspnœa from the bulkiness of the abdomen. She rather expected, from the sudden cessation of the movements of the child, and subsidence of the breasts, that all was not right, and that the child was dead. A few days previously to my visit, she sent for Mr. Eaton, in consequence of feeling, as she supposed, incipient labour pains. She was the mother of two living children. We now found the abdomen enormously and uniformly enlarged, and distended by fluid; fluctuation being perfectly distinct in all directions. As she lay on the back, the upper part of the abdomen around the umbilicus was resonant on percussion, and the sides low down perfectly dull. The tension of the abdomen was so great that we could not ascertain anything like the gravid uterus; but something like a tumor was perceived in the left iliac region. The bowels had not acted for ten days. The pulse was feeble, and the tongue white and furred. There was no anasarca. The patient was very feeble and low, and the countenance expressive of much anxiety.

She had laboured under an abscess for several months in the neighbourhood of the left crista ilei, which had discharged very considerably, and healed about the period, as she supposed, of her falling pregnant. The diagnosis

which we formed was that she was labouring under ascites, that pregnancy had not existed, and that the tumor felt in the left iliac region was ovarian. The treatment, in the first instance, was chiefly directed to the state of the bowels. Brisk purgatives were administered, and followed by enemata of rue and colocynth.

Considerable temporary relief was afforded by this treatment. The abdomen was rendered less tense, and the tumor in the left iliac region was felt more distinctly. This relief was, however, of but short duration; the fluid in the abdomen rapidly increased, and induced such embarrassment of the respiration, &c. as to render the operation of paracentesis necessary in the course of a month or five weeks. The operation afforded great relief to her more urgent sufferings, so much so that although she became gradually so much lower as to appear in imminent danger, she earnestly begged for its repetition only three weeks afterwards, when there seemed some risk that she could hardly survive the operation itself. On both occasions the quantity of fluid evacuated by paracentesis was very considerable, and was, throughout the whole period in which it flowed, clear and limpid. She survived the second operation about a week, and sank on the 17th June, about two months from the period of my first visit, and four weeks from the first performance of the operation of paracentesis.

Post-mortem examination, 18*th June*, 14 *or* 16 *hours after death.*

Body extremely emaciated, and the abdomen so attenuated that the bowel was cut into even by the first slight incision of the abdominal walls. The abdomen contained a good deal of fluid. The peritoneum appeared thickened and opaque. On attempting to remove the abdominal viscera, a considerable indurated growth was found to occupy the greater curvature and part of the body of the stomach, but not, however, involving its valves. On dividing this substance, it was found to be of the hardness of ordinary scirrhous tumors, but less radiated and fibrous in texture, and more resembling, in every respect, the hard portions of ovarian tumors. By its size, hardness, and the adhesions which had been contracted, I suspect this tumor must have pressed upon the vena porta, and so have contributed much to the ascites. The liver was rather smaller than natural, and not otherwise diseased.

The peritoneal covering of the small intestines presented several spots of puckered up serous membrane, exactly as if there had been an ulcer nearly or entirely penetrating through all the coats of the bowels; on opening this, however, the interior portion corresponding to the supposed cicatrix was found to be occupied by an elevation, of corresponding size, of a hardened matter in all respects resembling the disease in the stomach.

The tumor in the left iliac region proved to be the ovary of that side, in size about twice as large as the closed fist; the right ovary, exactly similar in size, &c. was jammed down into the pelvis, and there attached by adhesions to various parts. The fallopian tubes and their fimbriated extremities were rather thickened and puckered, and seemed to be taking on a similar form of disease to the ovaries. The uterus natural in size, of a dirtyish white colour and firm texture. The section of each ovary afforded evidence of a similar construction. The central portion was hard and white, and intersected by bands of fibres radiating towards the circumference. Each tumor appeared composed of various well-defined cysts or compartments, some hard and perfectly white, and non-vascular; others slightly softer and highly vascular; others much softer and running into a state not unlike the curdy contents of scrofulous glandular abscess; others of a semi-transparent gelatinous consistency; and others again so fluid as readily to flow out when the cysts were punctured.

General Observations on the Pathology and Treatment of Ovarian Disease.

The preceding cases of ovarian disease might easily have been multiplied by reference to my own note-book, or the publications of other authors on the subject; they will, however, answer the purpose of illustrating some general observations on the subject.

Pathology of Ovarian Disease.—Ovarian tumors, as it appears, may be entirely fluid, or partially solid and fluid in various proportions. Are the two forms of disease identical in their origin?

Much difficulty necessarily involves the subject of the early formation of ovarian tumors; for whilst it is all but impossible to pronounce what might have been the result in the cases of some of the more trivial alterations in the structure of the ovaries which have been casually observed in post-mortem examinations, without the existence of any symptoms during life to have directed our attention to those organs, it is equally difficult on the other hand, from the examination of these parts when affected by long-continued disease, to deduce what were the exact conditions of the parts in the incipient stage of such affections. In the examination of ovaries in cases in which no disease of these organs was suspected during life, it is not uncommon to observe a small cyst or vesicle beneath their peritoneal coat, and situated in the structure of this organ itself; such cysts or vesicles vary in size from that of half a horse-bean upwards, and usually contain, at least so far as I have observed them, a perfectly clear, transparent, semi-gelatinous fluid. When the cyst is very small, the remaining portion of the ovary does not necessarily present any structural alterations. Are these cysts the earlier stages of ovarian dropsy? The general opinion is, I believe, in favour of this supposition. The fluid in this case probably occupies one or more of the cells of the Graafian vesicles, and that this may be the earlier stage of ovarian dropsy in some instances is probably correct; but I must confess my own unwillingness to regard it as the sole, or even as the frequent primary condition which leads to the establishment of this form of disease.

Firstly, observing the thinness of the walls of these cysts even at an early stage, it is difficult to imagine how they should become so stretched and attenuated as to contain many quarts of fluid without giving way and bursting into the abdomen; and secondly, it is no easy matter to conceive how they should be able to afford so prodigious an amount of secretion. With respect to the former supposition it should not be forgotten that the distended ovary is at large in the abdomen, and receives no support from surrounding parts; if the tunica vaginalis testis may be very greatly distended with fluid without sustaining any rupture, it should be borne in mind that this membrane is uniformly surrounded by other parts which afford it support in all directions. If this condition ever constitutes the first stage of ovarian dropsy, I suspect it is of those cases in which the dropsy is contained in one single cyst only from the first — the unolocular form.

Whether ovarian tumors of any considerable size have ever been observed to be uniformly solid, I am not aware; no such cases have come at least under my own personal observation; by far the most common form of the affection is that in which the tumor is partially fluid. Cases IV. and VI. afford examples of this form of disease; the peculiar structural appearances of which are more particularly detailed in Case VI. Whether such cases commence from the very first in this mixed form or not, it is not easy to decide; in some instances, probably, they do; but I am strongly inclined to believe that the more solid parts undergo a gradual process of softening, and even liquification; the earliest stage of which commences in extreme vascularity, not to say inflammation. That this process of change actually takes place, seems to be established by the post-mortem observations made in Case VI. (of which I have seen numerous similar instances); it also seems further borne out by Case IV., both by the post-mortem observations then made, and by the fact observed during life that the tumors appeared to be becoming less universally hard; and still more so by Case V., in which a tumor apparently in the first instance as hard as stone, rapidly increases with symptoms of inflammatory character, and goes on to perfect softening, and the most complete cure by spontaneous rupture.

With respect to the essential character of the material, whether solid or fluid, which constitutes ovarian tumors, I am not aware whether they have ever been subjected to accurate chemical analysis or not; and it is highly questionable whether such analysis would lead to any improvement or increased certainty in the treatment of these affections; such, at least, has not been the case of other encysted tumors, whether fluid or solid.

The fluid contents of the ovarian cysts is in all cases that I have observed highly albuminous, and may vary

in its colour and consistency from a dark grumous appearance resembling coffee grounds, and from a ropy consistence, to a pale clear transparent fluid much resembling ordinary serum. The fluid may be mixed with flakes of more solid matter, impeding the flow of liquid through the trochar in the operation of tapping. It is also remarkable that the colour and appearance of the fluid vary at different periods in the same case. Instances are recorded in which a first paracentesis has brought away a clear, the second a turbid, and the third a clear fluid, and so on, and that, too, even when there could be little doubt but that the same cyst was punctured at each operation.

The more solid portions of ovarian tumors present no less variety in appearance; the whole or parts of the tumor may be as hard as cartilage, or of brain-like consistency. The differences of colour, consistence, &c. of the solid tumors, are chiefly due, I suspect, to different degrees of vascularity, and to different stages of certain natural processes of softening to which they tend in the majority of instances, when life is sufficiently prolonged to afford the opportunities for the establishment of such changes. In the more hard and solid portions of the tumor, the fibrous and radiated character which they assume has been already noticed in the relation of Case VI. To judge from the early history of the origin and the progress of the case to its ultimate termination, is another matter; but for myself, at least, I must confess, that were a small portion of some of the harder forms of ovarian tumor presented to me side by side with a similar portion of a scirrhous or carcinomatous tumor of the breast, I should be much puzzled to say which was which—to assign to the one, in fact, the characters of malignant, to the other that of non-malignant disease.

In all the forms of ovarian disease the cysts have been occasionally found to contain hair, teeth, bones, and other organized structures of this kind; it is, however, somewhat remarkable that these structures, said generally to be fœtal rudiments, consist most frequently of the very parts which are last to be found in fœtal life, and the absence of which, except in a very rudimentary state, is observed even at birth itself.

Symptoms and progress of ovarian disease.—In many instances, during their earliest stage, these forms of ovarian disease afford no symptoms, none at least of sufficient moment or stability to call forth the attention of the sufferer, or to confirm the accurate diagnosis of the medical attendant; in fact, unless called in for other affections, no medical attendant will as yet have been applied to. The principal symptoms, indeed, of ovarian disease in all its stages, are due to its mechanical inconvenience. Before the tumor rises above the pelvis it is liable to induce inconvenience by pressure on the rectum and neck of the bladder, occasioning difficulty in evacuating their contents, and much pain: instances of this fact are found in Cases II. and IV. If one ovary only be affected the catamenia may continue regular; not so, however, when both ovaries are diseased. Dr. Seymour was, I believe, the first to draw attention to these facts, which are exemplified in Cases IV. and VI. At what period, however, of disease the catamenial function ceases, it is, perhaps, impossible to ascertain; probably not until the whole organ is involved in structural change.

The period of life at which ovarian disease is first established is almost invariably that between the first establishment and cessation of the catamenia. Most practical authors are disposed to consider its occurrence to be more frequent during the latter period of this stage of life than the earlier; that is, supposing on the average the catamenia to commence at 17, and to cease at 47, ovarian disease is more prevalent between the ages of 37 and 47, than between 17 and 37. May this circumstance be due to the fact that the ovary may become diseased in early life, but from accidental circumstances favouring its non-increase of bulk, may remain stationary for many years until some other conditions of the part or system may call it into more active growth, and thus give rise not in reality to its origin, but to its manifestation? That such may be the case does not appear impossible, judging either from the nature of the local affection itself, or from analogy with other forms of disease. Tumors which have remained stationary for many years have often been found suddenly to take on a rapid growth, and even a character of malignancy, which it is difficult to suppose

that they at first possessed. It is not always easy to investigate all the circumstances in life connected with the peculiar functions of the female organs of generation. Independently of the natural and healthy exercise of these functions, there can be no doubt that moral causes exercise a peculiar influence over them; and it is not always practicable to obtain information on the one point or the other. In Case V. it is remarkable that marriage did not take place till late in life—many years past the period which nature has marked out for the first exercise of the generative organs; whilst the disease, whether previously existing in a dormant state or not, was at least first manifested within less than a twelvemonth of this period. That some peculiar conditions of the ovaria exist in many cases very long before the manifest development of the disease, is rendered more probabe by the fact—if it really be a fact, and I have frequently observed it—that the majority of married women in whom the disease has been witnessed have been barren. Such, indeed, was the case in three out of the four cases of married women narrated above.

Much difference of opinion exists on the subject of the predisposing causes of ovarian disease; that is, whether any particular habit of constitution recognisable to the medical practitioner renders the individual more liable than others to the establishment of this form of disease. So far as I am acquainted with medical literature, no very decisive evidence is to be gathered on this subject; but I must confess my own disposition to go with Dr. Copland, and others, who consider the scrofulous diathesis as decidedly predisponent. Such was clearly the case in Nos. IV. and VI.; in both which instances the disease was rapid in its growth and fatal in its termination (in Case VI. not certainly fatal of itself), and in which no especial exciting causes could be traced. In both these cases also there is little or no reason to suppose that the disease could have long existed in a dormant state before they were discovered by the patients and their medical attendants.

With regard to the exciting causes of ovarian disease, little more can be said than that the maturity of these organs favours the development of the disease; since it is almost unknown at epochs prior or subsequent to this period. Dr. Copland says, in his Dictionary, that Frank saw the disease at 13, and Itard at 14 years of age, but does not inform us whether the menstrual functions had been established in these cases. He himself declares that he has never witnessed the affection before the age of puberty. Nor is this more than happens of other organs, active disease of which is most liable to appear during the periods of life at which their functions are most energetically called forth. By the same general rule too, it may be stated, that inflammation of the ovaries, in whatever cause originating, and all circumstances tending to exercise morbid influences over the menstrual functions, are liable to excite the various forms of ovarian disease. Excessive sexual indulgence may therefore be fairly supposed to rank high amongst the exciting causes; and yet I am not myself aware that the affection is more prevalent amongst that class of persons who would thus be rendered most liable to it. Of the two causes I should feel more disposed to regard the want than the excess of exercise of those organs as the most frequent exciting cause of the disease. Every organ is by nature endowed with its appropriate functions; the natural action of which is most conducive to maintaining its structural integrity. Now we are not to suppose an organ is never excited, never receives impressions of any kind, because it is never exercised. In the case of arrested catamenia, for instance, are we to suppose that the organs therewith connected constantly remain in a perfectly uniform condition, both as respects the distribution of blood and nervous influence, because the catamenia does not appear?

There may be a natural excitement calling forth natural effects, the healthy performance of the functions of a part; or there may be an unnatural excitement calling forth unnatural effects, *i.e.* not a healthy performance of the functions of a part; or, again, the part itself being previously out of order, the source of excitement, though natural, may not be able to induce a natural and healthy effect. This is true not of one but all organs of the body.

Now it has occurred to me to observe many cases of ovarian disease amongst females who have married rather late in life. The ovaries have not been

brought into healthy action until long after the period of life at which they were by nature intended to be so; and then, perhaps, the healthy stimulus has come too late, and, whilst the former unnatural repose has acted as predisposing the present natural action, has even acted as an exciting cause of disease. Now if this view of the subject be true, it leads to very important considerations, and that, too, not in connection with the prevention of ovarian affections only, but many others. Farther, should the former proposition be true—that, in spite of the excessive venereal excitement in which they indulge (a circumstance naturally predisponent to the disease), this class of females are not, on the whole, found to be more frequently afflicted by it than others—it becomes a curious and interesting question whether their comparative exemption from a disease to which this circumstance would render them liable does not originate in the early exercise of those functions, at the period in which they were by nature intended to be exercised—the good effects of a natural exercise of a function more than counterbalancing the abuse of its excess; excessive exertion of a function at a period when the organ is ripe for its exercise being less pernicious than no exertion at all.

When Dr. Copland says (see his Dictionary, article Dropsy, Encysted, of the Ovarium), when speaking of this disease, "it is not improbable that it is connected with an often excited, but an imperfectly gratified, sexual appetite; hence its frequency in females who are sterile," &c. &c. I am quite disposed to agree with him where the source of excitement has been unnatural, which comes under the second general proposition laid down above; whilst I should be disposed to observe that the apparent induction, "hence its frequency in females who are sterile, &c.," is in reality another condition under which the disease occurs, and belongs, in fact, to the third general proposition. The females are sterile because the ovaries are already diseased in structure or function; the excitement applied is natural, the result is unnatural, and ends in promoting inflammation, or other structural changes, in organs already impaired in function or structure.

From these arguments, if true, we should deduce that a reasonably early marriage, unless, perhaps, under peculiar circumstances of predisposition, is likely to ward off the disease; whilst late marriages are liable to induce it: and, least of all, could marriage be recommended at a late period of life, when the slightest supposition existed of the presence of any incipient disease of these organs.

[To be continued.]

ON THE TRANSFORMATION OF PUS CELLS INTO A MUCOUS OR FIBROUS TISSUE.

To the Editor of the Medical Gazette.

SIR,

I AM aware of the hostility which all innovators upon established opinions must be prepared to expect, and of the number of persons ready to contest a claim to new facts.

If I had been ignorant of this before the publication of my Researches, it would have been made evident by the tenor of the arguments hitherto urged against my conclusions. I am told, on the one hand, that what I call a *demonstration* is an idle theory, a wild speculation; and on the other, that *my facts* are slender and erroneous inferences—nay, it has been asserted that a select few only can rightly discern the value of a microscopical appearance. I admit, to some extent at least, the latter proposition; but I affirm that there is no extraordinary difficulty in estimating the appearances of an object viewed through a microscope, that will not be speedily removed when the observer has had sufficient experience to enable him to consider calmly, and to describe faithfully, what he sees. I feel, at least, that I have nothing to fear, but every thing to anticipate for my conclusions, from a more extended use of the microscope, and an increased facility in making observations.

The object of the present paper is to draw increased attention to an experiment related pp. 249 and 250 of the Second Series of my Researches, and made for the express purpose of testing some of my views. This experiment I have repeated in several ways, with the following novel results:—

EXP. 1.—A large chronic abscess was opened, and a great quantity of pus

discharged. Some of the pus was received into a wine-glass; it had the white opaque appearance and the consistence of cream. Twelve drops of the pus were dropped into a watch-glass, and ten drops of Brandish's liquor potassæ were added to them; they were well stirred together with the point of a pen-knife, and in less than two minutes the mixture became nearly transparent, and so plastic, that I was able to suspend the whole mass (twelve drops of pus and ten drops of liquor potassæ) on the point of a needle. Twenty-five drops of pus were then similarly treated with ten drops of the alkali, and the whole of this was suspended on the bare point of the needle. Fifty drops of pus, and fifteen of liquor potassæ, were then tried, with the same result; and, lastly, I found that *seventy-five large drops of pus, and twenty drops of liquor potassæ* (taking a little longer time to mix them), *could all be suspended on the point of the needle*, for as long a time as I chose, leaving the watch-glass in which they had been mixed nearly as dry and as clean as before they were placed in it. If a few more drops of liquor potassæ be added than the proportions here mentioned, the mixture becomes quite transparent, and it may then be gently drawn out into strings or filaments two or three feet long.

Now what are the events accompanying or preceding this singular transformation, and what are the results? I have shewn in the first series of my Researches, that liquor potassæ causes pus cells to burst open and discharge their contents; and it is evident that, in this experiment, the plasticity of the resulting material arises from the rupture of the cells. The fluid element of pus, before this event, is limpid; that is, it has no plastic quality or tenacity whatever; it drops from one vessel into another like water; but when a majority of the cells have been ruptured, and their contents mingled with the previously existing fluid, then the whole becomes exceedingly plastic and coherent; it will no longer drop from one vessel into another, and it exhibits all the microscopical appearances of fibrous tissue or of mucus. The event, therefore, accompanying or preceding this transformation, is the rupture of the pus cells, and the result is a mucous or fibrous tissue. I do not understand by the word *transformation*, as applied to cells, any transcendental conversion of one object into another, but that they are altered in appearance by a living growth, or by death; in character by peculiarity of situation; and that when they burst or become ruptured, and their contents mingled with the fluid in which they float, they form either a fibrous tissue, a plastic mucus, or a secretion.

Exp. 2.—Provide a tall glass jar, a tumbler glass will do, filled with clear water, and two long needles fitted with convenient handles. Mix a few drops of pus with an equal number of drops of liquor potassæ, stirring them well together; if several air bubbles are included in the plastic matter which results, so much the better. Let the mixed materials be now transferred to the water, and if air bubbles are entangled in it, it will float at the surface.

Now take the needles, push the plastic mass under the surface of the water, and on separating the needles with a little manipulation it may be spread out into a most delicate, thin, transparent, and highly elastic fibrous membrane, exactly resembling some of the thin transparent membranes of the embryo, except in the presence of blood-vessels, or the *structureless basement membrane* of Mr. Bowman. In this experiment the number of entire cells or pus globules incorporated with the free molecules and the fibres may be varied at pleasure by varying the quantity of liquor potassæ.

Here, then, we find that we may form not only a glassy mucus, or a fibrous tissue, but a highly elastic and transparent membrane from pus-cells, from dead and dying, or degenerated cells; what the active and the living can do is seen in the spontaneous formation of a fibrous tissue in buffy blood. But it may be objected that the liquor potassæ does more, in these experiments, than rupture the cells; I therefore allowed these tissues and membranes to macerate in water for several hours, and I found them not at all altered in character or appearance thereby: I then removed them from the water, and placed them on turmeric paper, and there was not the least indication of the presence of any alkali; moreover, the fibrous structure was rendered still more evident, and not destroyed by immersion in weak acetic acid. Again, it may

be said that what I here call an elastic membrane is nothing more than a film of plastic mucus; to which I reply, if so, then that is *a new fact;* and that mucous is a form of fibrous tissue. Fortunately, these experiments may be repeated, and all the most essential of the facts observed, without the microscope.

I now ask the author of the review in the Lancet of August 3d, and the candid and impartial reader, whether my conclusion "that it is the corpuscles, and not the blood-fluid, which administer to nutrition," is or is not "a wild speculation!" The former must, I think, speedily repent the hasty remarks and rash admissions he has made: if he really has looked for, and not seen, the colourless-blood-cells accumulating in the vessels of the frog's foot after immersion in tepid water, I can assure him that a perseverance in his labours will be amply rewarded by a merited success; that is, if he will follow the plain directions given. But if he has seen "distinct exudation follow the stoppage of the blood," without seeing any of the colourless cells, then I accept this fact in support of my conclusion that cells are never formed in or from the exuded fluid. I have no intention of entering upon any argument, or of discussing the merits of this review; it consists of nothing more than statements here and there picked out from my "Researches," and of bare assertions flourished off with an array of good names. Such things may at any time be done without much personal trouble to damp the ardour of pursuit for truth, or to check the progress of knowledge and improvement in every science. I ask those who feel an interest in the establishment of *principles* worthy the name of medical science, to treat pus cells first with liquor potassæ, and then with diluted acetic acid, and to study the physical and microscopical character of the result; to examine the details of the structure of the clear and of the opaque mucus and mucous cells from the nares and other mucous surfaces; to watch the fibrillation of the liquor sanguinis, and the changes which the cells experience; to observe the various and singular alterations produced in the red and colourless cells of blood drawn from an inflamed spot after the addition of a little water; the disposition of the various groups of isolated molecules; and the formation and interlacement of the fibres; and to study the objects contained in the limpid and clouded fluids of cutaneous vesicles. I then ask them to examine the moving molecules in the interior of blood, saliva, and mucus, or tissue and pus cells, and to study the phenomena of the circulation in the irritated vessels of the living frog; I ask them to do these things before they dismiss my theory or rationale of nutrition as a "glaring instance" of error.

Finally, I would ask those who do not choose to trouble themselves with these *demonstrations*, to take no part in the discussion, for it is useless to urge against me only those views and opinions which I contend they show to be no longer tenable.

I remain, sir,

Yours very obediently,

WILLIAM ADDISON, F.L.S.

Great Malvern, Aug. 6th, 1844.

ON THE

PATHOLOGY AND TREATMENT OF THE MORBUS BRIGHTII; AND VARIOUS FORMS OF ANÆMIA.

By G. OWEN REES, M.D .F.R.S.

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(*For the London Medical Gazette.*)

THE object of the present communication is to direct attention to certain diseased conditions of the blood. Before doing so, however, I must venture to premise, in relation to the structure of the blood corpuscle, that whatever may be the difference of opinion among micrographers, concerning the existence of a nucleus, and on the mode of genesis, the fact that these bodies are composed of a membranous sac enclosing colouring matter has been so completely proved by experiment, and is now so generally admitted, that I shall proceed by regarding it as fully established, and show how it explains many pathological conditions which cannot otherwise receive interpretation.

In the course of some observations on the state of the blood in disease, published in the Guy's Hospital Reports for April 1843, I directed attention to its extreme tenuity in certain stages of the morbus Brightii, and entered upon the consideration of that condition as con-

stituting the true cause of the deficient proportion of hæmatosine observed at later periods, and which acted by interrupting those endosmotic changes occurring between the contents of the corpuscle and the chyle, when each fluid possesses its ordinary specific gravity. Further experience has tended to confirm this pathological view, and I am anxious now to allude to certain other forms of disease in which a deficiency of hæmatosine is the leading characteristic, and consider how far such morbid states may be regarded as identical with albuminuria in their humoral relations. The increased quantity of water circulating in earlier stages of the morbus Brightii is no doubt caused by the discharge of albumen with the urine taking place as a constant symptom. Thus the liquor sanguinis is deprived of one of its most important constituents, and the watery condition induced will go on to the production of that secondary state in which the absence of hæmatosine from the blood becomes the leading feature of the disease. This change from the one state to the other is well shown by the following analysis made upon blood drawn from patients suffering under the morbus Brightii: the first at an early, the second at an advanced stage of the disorder.

	1.	2.	*Health.*
Water . .	805·71	853·11	792·20
Solid matters of serum	85·56	81·28	87·85
Fibrin and corpuscles	108·73	65·61	119·95

The decrease in the proportion of hæmatosine observed in persons who have lost large quantities of blood, and in anæmia from other causes, may, I am inclined to believe, be correctly explained on the same principle that applies to the above cases, and it is not difficult to understand how the antecedent condition, consisting in a loss of proper density on the part of the liquor sanguinis, is brought about.

When large quantities of blood have been lost, the remainder of the circulating fluid absorbs water in order to maintain its bulk. The dry skin and extreme thirst observed in patients who have suffered from large losses of blood are doubtless indications of the necessity of supplying a sufficient bulk of fluid to afford the heart a stimulus to contraction; but when these cases have passed through the first dangers of hæmorrhage, the anæmia which follows cannot be regarded merely as the effect of dilution of the blood, for a cause exists in that fluid which interferes with the development of the corpuscle, and keeps up the anæmiated condition.

My friend Dr. Lever, of Guy's Hostal, informs me that in cases of violent flooding he has often observed the thirst abated by frequently sponging the body with water; and there can be little doubt of the advantage of this mode of treatment, not only as a means of allaying thirst, but of saving life; for an increase in the degreee of rapidity with which water is absorbed during violent hæmorrhages may make that difference in the condition of the heart which turns the scale of life in favour of the patient; nor do we possess a better means of introducing large quantities of fluid into the blood than by applying it to the extensive surface of the skin; and the stomach, as is frequently the case, may be too irritable to receive liquids. The after-treatment of these cases, as indicated by theory, would consist in the exhibition of saline purgatives and meat diet, with the use of ferruginous tonic medicines to assist in the formation of chyle rich in an element necessary to the formation of hæmatosine.

The efficacy of this plan of treatment has been long appreciated by practitioners, and its adoption is one among the many instances our profession affords of the discovery of a practical truth as the result of lengthened and tedious experience, and without the assistance to be derived from physiology and pathology, which sciences, had they participated in the elucidation, would have enhanced the value of the fact, by enabling us to deduce general principles of treatment from the knowledge obtained, and have suggested important analogies not otherwise presentable to the imagination.

The various forms of anæmia which attract the attention of the practitioner, in many of which no very obvious cause for pallor can be ascertained, will frequently admit of explanation, if the principles I have noticed be kept in mind, and inquiry made into all the possible causes which can produce a decrease in the specific gravity of the liquor sanguinis. It would appear that this decrease admits of being brought about in one of three possible ways: 1st. by removal of one or more solid

constituents from the blood; 2dly, by inactivity on the part of the exhalents, the skin, lungs, and kidney, which will so derange the balance between the ingested and exhaled fluids as to leave an excess of water in the blood; and 3dly, by an increase of the absorbent action of the skin.

The first of these conditions is present in the morbus Brightii, while in cases of anæmia caused by excessive loss of blood, the first and third conditions exist. The latter, however, though tending to produce anæmia, in all probability merely takes place in order to preserve life; and we are not yet in possession of sufficient facts to enable us to decide how far it may exist in any other cases either as an accessory or sole cause of anæmia.

If we examine the histories of anæmial cases, we frequently discover that large quantities of the solid matters of the blood have escaped from the system in the form of leucorrhœal discharge, when the whole phenomena of the disease are explicable (at least so far as the pallor is concerned) on those principles which apply to the morbus Brightii. In other cases a difficulty exists in detecting any such cause for anæmia, and in these I am inclined to believe in the existence of the second condition above mentioned; and that the changes productive of anæmia have occurred in consequence of the exhalent power of the skin having become impaired.

These cases are generally characterized by a weak pulse, the skin being peculiarly flaccid, and the surface cool, while large quantities of water pass off by the kidneys. A stimulating diet, ferruginous tonics, tepid baths, and taneous frictions, are here particularly indicated, and rapidly produce their beneficial effects.

There is another class of anæmial cases, which, though seldom seen, are still sufficiently common to deserve attention; these constitute, in fact, a form of the morbus Brightii, but as they occur in young females slightly advanced beyond the age of puberty, and are accompanied by amenorrhœa, frequently escape detection, and are treated as chlorosis, while a more favourable prospect of recovery is entertained than would be the case were the true nature of the disease known to the practitioner.

The long continuance of anæmia in young girls who have never suffered loss of blood, and in patients affected with morbus Brightii, who have never passed red corpuscles in quantity with their urine, are facts which, when considered in connection with the analysis of the blood in such cases, sufficiently shew that the disease may be produced by an imperfection in those processes which are necessary to the genesis of the blood corpuscles. That this imperfection consists in a loss of the normal relation between the specific gravities of the liquor sanguinis and chyle, is but a necessary deduction from what we know concerning the chemical and physical conditions of these two fluids; for it is positively certain that the chyle, being of less specific gravity than the liquor sanguinis, must, as it passes into the venous system, act upon the red corpuscles so as to enter them freely; and it is equally certain that the nearer the liquor sanguinis approaches to the chyle in specific gravity, the greater will be the difficulty in supplying this ferruginous ingredient for the production of red colouring matter within the corpuscles. This being admitted, we must not forget that the anæmia caused by the positive abstraction of blood in large quantities, the bulk of which is supplied to the system by an absorption of water, is a diseased state greatly aggravated by the difficulty which must be experienced in the reproduction of red colouring matter, owing to the approach of chyle and liquor sanguinis to the same specific gravity; and our remedies should be chosen, as in other cases of anæmia, with this view. The water should be removed by purging, nutritious diet enjoined, and iron freely administered.

There is a mechanical condition influencing the degree of pallor, of which I cannot omit notice, as it forms an important element in the production of anæmia. It consists in a change in the form of the corpuscles, producing a thickening of their edges as seen under the microscope, and exactly resembling a state always to be produced artificially by the addition of dilute saline solutions to the blood after removal from the body. This I have frequently observed in the blood of anæmiated girls, and it is doubtless caused by entrance of the too dilute liquor sanguinis into the globule at the commencement of the degeneration, rendering the form of the

corpuscles such as greatly to interfere with their circulation through the capillaries, and thus contributing to the production of the pallor. As the disease advances, the corpuscles, however, are frequently observed pale and flaccid, the balance having been effected between the contents of the corpuscle and the liquor in which they float. In this stage, however, if the skin fail to discharge its function, or if blood be lost from the system, we must expect that the corpuscle will again become thickened, as, under these circumstances, the state of stasis is disturbed, and the liquor sanguinis will again enter freely, owing to its having become further degenerated by the addition of water.

In conclusion, I venture strongly to recommend the adoption of the same plan of treatment in the early stages of the morbus Brightii that is found efficacious in chlorosis and the anæmia produced by hæmorrhage, viz. chalybeate tonics, saline purgatives, and nutritious diet; being satisfied of the value of the plan, which, though not immediately calculated to remove the congested condition of the kidney known to exist in the complaint, is still of efficacy in preserving the normal state of the blood, and may thus fairly be considered as assisting in recovery. It will be obvious, from what has been stated above, that the removal of nephritic congestion should not be effected by bleeding in any form, inasmuch as it tends to produce the condition of blood which it is desirable to avoid, as a forerunner of the secondary evils of the morbus Brightii. Counter-irritation and dry cupping are the most desirable methods of relieving the kidney.

CASE OF THE SUCCESSFUL REMOVAL OF A DISEASED OVARY OF THREE YEARS' DURATION.

By Dr. Frederic Bird,

Consulting Accoucheur to the Western Dispensary, Physician to the Metropolitan Hospital, and Lecturer on Medical Jurisprudence at the Westminster Hospital.

(*For the London Medical Gazette.*)

In recording another case in which excision of a diseased ovarium has been successfully practised, it will not be necessary to describe minutely the method of operating, inasmuch as it did not differ in any material point from that adopted in all my previous cases; and for the narration of which I may refer to preceding pages of the Medical Gazette. Features of interest in the history, and of practical import in the subsequent progress of the case, presented themselves, and to these I shall chiefly refer.

Towards the end of April last, I was consulted by Miss ——, who had for many months been under medical treatment, on account of a large abdominal tumor. She had recently attained her twenty-first year, and with the exception of the disease under which she then laboured, had enjoyed previous health. The menstrual function, developed at the age of fourteen, had, during the succeeding four years, been naturally performed, but at the expiration of that time, accidental exposure to damp and cold was followed by the sudden arrest of the secretion: febrile action took place, but quickly passed away, and the catamenia reappeared. From that period is dated the commencement of abdominal symptoms, which were at first those of local inflammatory action, and subsequently of ovarian dropsy. As the local pain subsided abdominal enlargement occurred, appearing in the form of a small tumor seated in the hypogastric region, rapidly increasing in size, and after the lapse of a year filling nearly the whole cavity of the abdomen. At no stage of the disease had one side of the abdomen been more distended than the other.

During the two following years she continued to suffer from the increased size of the tumor, and although she received the most judicious medical treatment, yet nothing more was effected than the alleviation of occasional local symptoms.

When I first saw her the abdomen was rather less than forty inches in circumference, and was fully and equally distended; fluctuation was distinct at every part of the tumor; resonance on percussion in the hypochondria indicated the position of the intestines; the ensiform cartilage was projected upwards, and the capacity of the chest was evidently much diminished; some little œdema of the integuments at the lower part of the abdomen existed, and there the superficial veins

were tortuous and turgid. Her general health had become greatly impaired, emaciation had proceeded rapidly, she suffered from frequent attacks of abdominal pain of a neuralgic character, from dyspnœa, palpitation, and also from nausea and occasional difficulty in micturition. Her pulse was weak and frequent; under slight mental excitement becoming irregular in volume, and intermitting.

The diagnosis of ovarian disease was not difficult, and from repeated examination I was convinced that little or no solid matter had been deposited in the cyst, and that in all probability no peritoneal adhesions were present. There were not any symptoms indicative of uterine disease, her age and previous history were alike opposed to its existence, and I did not therefore deem it necessary to carry the inquiry farther. Dr. Hamilton Roe and Dr. Andrews, who saw the patient with me, fully concurred in the opinion that had been given, and in the propriety of operating.

Circumstances connected with the case induced me not to delay the performance of the operation: of a temperament originally excitable, her disease had rendered her yet more so, and impressed with a belief of its incurability, she had become the subject of much mental depression; as a consequence of which all means capable of supporting her general health had been neglected; her constitutional powers were daily suffering impairment, her anxiety becoming greater, and it was evident that so much prostration would soon occur as to interfere materially with the probabilities of recovery.

April 21st.—In the presence of Dr. Ferguson, Dr. Hamilton Roe, Dr. Andrews, Dr. Cape, Dr. Cursham, Mr. Phillips, and Mr. Clarke, the operation was to-day performed. The same preliminary measures had been employed as in the cases already related. I commenced the abdominal incision a little below the umbilicus, and extended it downwards about four inches: very little hæmorrhage occurred: the cyst immediately presented itself; it was grasped and punctured; and as the contained fluid was evacuated, it emerged from the cavity of the abdomen: it had a less dark colour than I have commonly observed, and the arterial ramifications were small. The pedicle was rather long, and contained one large artery and two of less size; it was transfixed by an instrument carrying a double ligature, firmly secured, cut through, and the removal of the tumor was complete. The lips of the incision were then brought into apposition by several sutures; a thin linen roller was drawn around the abdomen, and cold water dressing applied. The ligatures were carefully plaited together, so as to form one band, and but a small portion of them allowed to recede into the abdomen: their free extremities having been secured, the patient, who had hitherto been placed on the side of the bed with the feet supported, was drawn to a more easy position.

The operation was borne almost without an expression of suffering; the pulse, which previously to its commencement had ranged at 96, was at its completion found to be 88. A little wine was subsequently given, and she was ordered

℞ Decocti Amyli ℥ij.; Liq. Opii Sed. 3j.; Fiat enema statim injiciendum.

8 o'clock (five hours after the operation).—Has not yet slept, but presents a cheerful countenance, an easy position, a quiet pulse of 95, calm respiration, and a moist skin. The enema was repeated, and after an hour she fell asleep.

22d, 2 o'clock A.M.—Pulse 80; abdominal walls more retracted towards the spine; has twice vomited; the fluid ejected containing a part of the wine given soon after the operation. It is now stated that during health the stomach could never retain port-wine. She has slept but little, though undisturbed by any painful symptom. About nine ounces of urine have been withdrawn by catheter. A small quantity of serum has passed from the lower part of the wound.

Repetatur enema statim.

5 A.M.—Pulse 88. She is still sleepless, and has some tendency to vomiting: urine five ounces. The ice, which had been ordered, is freely taken.

A pillow, the greater part of which had been moistened with Liquor Opii Sedativus, was placed beneath her head, and appeared to produce calm sleep, which occurred in about half an hour.

Half-past 9 A.M.—Pulse 90; the breathing is tranquil, and skin natural, but there is now circumscribed tenderness on pressure in the right iliac

region, at which part there is also some distension. The wound presents a very healthy appearance: urine six ounces.

Half-past 4 P.M.—Pulse 96. Has slept but little; there is now less distension at the lower part of the abdomen, and the local tenderness appears somewhat diminished. The cutaneous action less free.

Half-past 8 P.M.—Pulse 100. Has become rather excited; the skin is less moist, and has an increased temperature: thirst is also troublesome; and it is difficult to induce her to to take the ice or water. Urine secreted during the last eleven hours ʒxvj.

23d, 2 o'clock A.M.—Pulse above 100, more depressed. She is irritable and sleepless; and there is some epigastric uneasiness, and frequent eructations.

A few tea-spoonfuls of hot water and brandy were given with relief, and afterwards

Enema Amyli c. Liq. Opii Sed. ʒiss.

5 A.M.—Pulse has risen to 112; is more irritable, but not contracted. There has been but little sleep since the exhibition of the opium. Her position is uneasy; there is increased heat of skin, with the exception of that of the lower extremities; the tongue, which hitherto had presented an healthy appearance, has become covered by a thin white secretion, and has its substance more injected: pressure in the right iliac region is now productive of greater pain than previously.

Although the symptoms presented did not serve to indicate any very acute or general inflammatory action, it nevertheless seemed evident that local peritonitis existed; an opinion which was confirmed by Dr. Hamilton Roe and Dr. Andrews, who met me in the course of the day. And as it was more than probable that the increased action was in a great measure attributable to the peculiarly irritable state of the patient, and having seen that so long as the nervous excitement was restrained, and the cutaneous secretion kept up, she had progressed favourably, the indication appeared to be to fulfil these two conditions as quickly as possible. With this view, the temperature of the room, previously at 75°, was increased to 85°; ice mixed with a little lemon juice administered in large quantities; and the following enema employed—

℞ Decoct. Amyli ʒiiss.; Liq. Opii Sedat. ʒij.; M. Fiat enema.

11 A.M.—Pulse 120, of the same character. She has not slept, but there is less tenderness on pressure, and the skin now perspires copiously. Urine ʒiv. since the last report; ʒxvij. during the last fifteen hours; on one occasion passed without the aid of the catheter.

Habeat Morphiæ Acetatis gr. j., in formâ pilulæ quâque horâ ad soporem.

7 P.M.—Pulse 108; the reduction in its frequency, and four hours of calm sleep, having followed the third dose of the morphia. Very copious perspiration has continued, and there is now a manifest improvement; the abdominal tenderness is considerably less, the distension slight, and the position in bed no longer indicative of pain.

12 P.M.—Pulse and general symptoms the same. Wishes for sleep.

Enema Amyli c. Liq. Opii Sed. ʒii. statim, et repetatur post horas quatuor si opus fuerit.

24th, 6 A.M.—Pulse 110; is restless. Two enemata not having produced any effect,

Morphiæ Acet. gr. iss. statim.

11 A.M.—Pulse 106; is much improved; but little abdominal tenderness is evinced even on very firm pressure; the skin still freely acts, and the tongue is less coated; appetite is returning; and the only source of uneasiness consists in the frequent occurrence of eructations. Urine during the last twenty-four hours, ʒxxij.

Allowed a little arrow-root, with water, toast-water, and tea.

9 P.M.—Pulse 104; sleeping. The use of the catheter has to-day been discontinued.

25th, 8 A.M.—I visited her three times during the night, and at the two first visits found her in tranquil sleep; at the third she was awake, but quite free from all her late symptoms. At present her countenance is very cheerful, her spirits animated, the pulse firmer, but soft, and 98; skin, tongue, and appetite, as in health.

Allowed veal broth in small quantities.

8 P.M.—Passed a comfortable day, and is quickly improving. Pulse has varied from 96 to 100.

26th.—Not being able to obtain sleep otherwise, the opiate enema was made use of last evening. The bowels have to-day been relieved, having acted twice without the aid of medicines.

27th.—Without any apparent cause she has again become excited and irritable; the pulse is more rapid, and heat of skin increased, but there is no recurrence of the local symptoms.

Enema c. Opio.

28th.—Slept well during the night, and is now much improved; tongue and pulse natural, the latter ranging at 84. The lower part of the wound is suppurating; the upper is united. She now takes, in addition to former diet, beef-tea and an egg.

30th.—Progressing most favourably.

Better diet.

May 8th.—During the week that has elapsed since the date of the last report, she has continued to improve. A good diet, with animal food and three or four glasses of wine, is taken with appetite—the action of the bowels being regulated by alternated doses of Pil. Rhæi. Co. and castor-oil. The ligatures were last evening removed, and the wound has now nearly closed, a few small granulations being present at its lower margin.

June 8th.—Rapidly improving. Has gone to reside out of town.

July 18th—The notes taken subsequently to the last report mark an uninterrupted convalescence. By the aid of good diet and country air, she has quickly acquired full strength. The wound has long since healed, the catamenial function has been naturally performed, and the bowels now maintain healthy action. The peculiar irritability from which she previously suffered has nearly altogether subsided; her spirits are far less variable, and, in short, she presents all the appearances of excellent health.

The dimensions of the abdomen prior to, and after, the operation were the following:—

	Before operation.	After operation.
Circumference of the abdomen	40 inches	23 inches
From ensiform cartilage to pubes . .	16	11

The entire weight of the tumor was 29 pounds. The contents of the sac had a specific gravity of 1007, a light amber colour, and contained but a very small quantity of albumen. The tumor appeared to have had its origin in a single vesicle of De Graaf, as lying upon its external surface could be distinctly seen the greater part of the ovarium, which, with the exception of increased density, did not present any marked evidences of morbid change. The Fallopian tube passed up along the posterior part of the tumor to the extent of ten inches, not closely attached, but apparently connected by a fold of broad ligament; its fimbriated extremity was free, and very perfect. The sac was abundantly covered by minute vessels running in the same direction, but not freely anastomosing; they were chiefly derived from one large trunk, which passed immediately beneath the fallopian tube, but also in part from two branches of less size contained in that portion of the broad ligament in contact with the sac. The thickness of the walls of the cyst varied, being thinner at the superior portion, denser at the inferior, the parietes in the latter region having a thickness of nearly half an inch. Within the parent cyst a large number of secondary cysts were developed, for the most part of small size, and containing fluid secretion of darker colour than that by which the former was filled. The whole internal surface had a dark congested hue, and the part corresponding to the attachment of the pedicle was of an almost black colour; this appearance being in a great measure due to the presence of many venous trunks, of rather large size, into which numerous smaller vessels passed.

The expediency of having recourse to the operation of excision still remains on the minds of many an undecided question, and by some is wholly negatived. Not that there exists any belief in the potency of other remedial means, but it is said, ovarian dropsy may be both slow as to its development and painless as to its symptoms; that it may prove but an inconvenience, may not tend to destroy life, may not embitter it. Admitting that such instances have sometimes happened, it is yet sufficiently certain that they have been but rare exceptions to the common rule, and were they of frequent occurrence, they would neither aid in determining the value of the operation, nor militate

against its employment. So long as ovarian disease remains quite inert, so long as the general health is preserved unimpaired, the treatment by operation is not indicated; to all such cases the practice of extirpating the diseased organ does not rightly apply. That the great majority of cases of ovarian disease, whether left to themselves or submitted to ordinary treatment, do terminate fatally in a comparatively brief period, is without doubt, and although many respected authorities of the present day differ as to the mean duration of life, yet the most extended term hitherto stated does not exceed a few years, and these for the most part are years of suffering.

Again, it is asked whether it be better to incur the liabilities to danger which unquestionably attend the operation, with the hope of obtaining permanent relief, or by palliative measures to alleviate local symptoms, and thus retard, as much as medical ministrations may, the progress of disease. How much of benefit is to be effected by therapeutic means, experience has fully demonstrated. It is a remark as old as Morgagni (De sed. et caus. morb.) that tapping in ovarian disease is not only useless, but mischievous; nor have the observations of subsequent authorities been opposed to such opinion. It is from the known inadequacy of the several forms of treatment that have been introduced into practice, that strong arguments in favour of excision may be drawn. The attendant dangers of the operation in properly selected cases may probably be rendered less than have been imagined: if the diagnosis be accurately made, if an unnecessarily large abdominal incision be avoided, and if the subsequent treatment adopted be in accordance with correct principles, it will I believe be found that a large proportion of cases will terminate in success. Such, at least, has been the result of my own experience; in all the cases in which I have operated recovery has been rapid and complete.

Statistical records, so far as recent cases are concerned, have been said to speak yet more favourably, and to show that even when employed within less narrow limits, the operation has been very successful. Much caution is necessary in receiving any evidence which may be founded upon the statistics as they at present exist; the number of cases recorded is too small and too uncertain to admit of any truthful deductions. It would seem almost a thing of fashion to test the value of aught that is novel in medical science by statistical analysis. I would not presume to doubt the great utility of such means when the elementary data are known to be correct, but in the present question this is assuredly not the case. Error, or something worse than error, has been so often associated with the cases which have occurred, that to employ their published records alone must lead to false and dangerous conclusions, not only as relates to the general employment of the operation, but also to the several methods in which it has been performed. It is an easy industry to collect together the cases hitherto placed on record, to classify and make deductions from them, which may then be offered as means for the guidance of medical opinion. But where is the evidence of their correctness? Statistical tables have been more than once enlisted by those who have argued for and against the excision of ovarian tumors, and the results arrived at by each writer have been different. Many of the cases contained in such tables have been so vaguely reported, that the manner of operating, and even the ultimate results, are imperfectly known, whilst another and not less important source of fallacy arises from the fact, that a most reprehensible practice exists of suppressing the publication of unsuccessful cases. Several such have occurred, the faithful relation of which might have shed much additional light upon the operation, but are still carefully concealed from the notice of the profession.

38, Craven Street.

POISONING BY DIGITALIS.

To the Editor of the Medical Gazette.

Sir,

If you think the following case of poisoning by digitalis worthy of being recorded in your journal, its insertion will much oblige,

Yours respectfully,
George Wilson, Surgeon.

3, St. Peter's Square, Leeds,
August 6th, 1844.

The patient, a healthy, robust, young man, was advised by a fellow work-

man, who enjoyed the advantage of having studied Culpepper, to take "throatwort tea" for a common sore-throat. Accordingly, he procured as much o fthe fresh leaves of the purple digitalis as nearly filled a quart pitcher, upon which he poured as much boiling water as the pitcher would hold, thus making a very strong infusion. Of this he drank a large tea-cupful on going to bed; the immediate effect of which dose was a long, sound slumber. In the morning he took a second cupful (which would probably be stronger than the first, from the leaves having undergone a longer maceration), and went to his employment. He felt quite dizzy and heavy; soon afterwards began to stagger, and lose his consciousness; and at last fell down in a state of syncope.

Being conveyed home, and put to bed, he vomited severely, and complained of extreme pain in the abdomen.

When visited he presented the following symptoms:—he lay supine, very cold, pale, and covered with a copious perspiration. He was conscious, but complained of violent pain in his head: the pupils were dilated.

The pulse was extremely low, three or four feeble pulsations being succeeded by a complete intermission occupying several seconds; the whole number of beats, not exceeding 38 or 40 in the minute: each stroke, though very weak, was given with a peculiar explosive shock.

He complained of great pain in the epigastric and umbilical regions, and had incessant and severe vomiting. The bowels were confined: the function of the kidneys was completely suspended: there was a considerable and constant flow of saliva.

He was ordered brandy, ammonia, &c.: warmth was applied externally, his head kept low, and, after some degree of reaction had taken place, purgatives were administered.

Under this treatment he gradually revived, but could not for several days bear the upright position. The pulse also presented its peculiar beat and extreme weakness for a similar period. After this, he gradually but completely recovered.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue a allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Thomæ Sydenham, M.D. Opera omnia. Edidit GUILIELMUS ALEX. GREENHILL, M.D. Londini, impensis Societatis Sydenhamianæ. 1844.

THE admirable manner in which the works of Theophilus were edited by Dr. Greenhill, and which emanated not long since from the Oxford University Press, gave us good grounds for anticipating the ability with which any other work intrusted to the care of that zealous and learned physician would be performed. Nor have we been disappointed: the present edition of the entire works of Sydenham, in the language in which they were originally published, just brought out by the Sydenham Society, and edited by Dr. Greenhill, is alike worthy of their illustrious author, their careful editor, and of the society under whose auspices they have come forth; and we most sincerely congratulate the members of that Society on their possession of a really first rate edition of the works of a man to whom all, both at home and abroad, for almost two centuries, have united to do homage. In preparing this edition for the press, Dr. Greenhill has evidently taken especial pains to perform that first and great duty of an editor, viz. to present to the reader the text of his author in as genuine a state, and as free from inaccuracies as possible. In order to effect this he has collated all the best and oldest editions, and has not swerved from these, except where a typographical error rendered it necessary to do so—we find no learned trifling, nor display of conjectural emendations. All various readings of importance are given at the bottom of each page. Besides this, the editor has added a few notes to explain any special difficulty either of word or phrase; these are brief, scholar-like, and to the purpose, showing on the part of Dr. Greenhill, unlike many editors, a greater desire to illustrate his author than to parade his own learning. Indices, both of the matters contained in the volume, and of the proper names occurring, are given; to these is added a list of the medicines and formulæ employed by Sydenham, the value of the latter being much increased by the in-

troduction of the modern botanical names, in the adjustment of which Dr. Greenhill had the important co-operation of Drs. Pereira and Royle. Altogether the edition is most complete, valuable, and beautiful.

Nor let any one think, because the name of Sydenham is in every body's mouth, that a new edition of his Works was not necessary: the fact that 110 years have elapsed since a complete edition was published in this country, would be a sufficient answer to such an objection; but besides this, we cannot help thinking that after all there are comparatively very few who know anything of Sydenham, except his name; too many are alike ignorant of the rich stores of medical knowledge contained in his pages, as they are of the spirit and temper in which these pages are written. And what, after all, it may be asked, is the great charm by which those who have once made themselves acquainted with the writings of such men as Sydenham, are led to them again and again, and rise from the perusal without disgust or satiety, ever ready to renew the banquet? The charm is simply this, that Sydenham, and such as he, to use the words of Huxham, in speaking of the Greek medical writers, "kept their eyes steadily fixed on what they would describe, and have given us the true picture and naked truth of things;" and this not drawn by the hands of an untutored youth who pretends to observe and interrogate nature before he really knows what are the problems which require to be solved, and therfore what questions require to be put. Nature will give no answer to such tyros as these. But Hippocrates, and Sydenham, and Heberden, went otherwise to work; they waited until years passed in studying nature with the greatest care and assiduity, had given them, as it were, a title to speak; and as they observed accurately, so they described truthfully, and left to posterity a rich legacy, which wastes not in the using—to us a τῆμα ἐς ἀεἰ—to themselves a monumentum ære perennius.

In the present day, the study of the older writers is especially needed amongst us—we want models, something which the mind can at once repose on, and keep in view as worthy of imitation. Every where around us is noise, talk, and confusion; one after another crude and ill digested notions, supported only by unblushing fronts and voluble tongues, are put forward; each yields in its turn; it would seem as if the men of the present generation had no idea that patience and calmness are necessary elements in the mind of him who would be an observer, to say nothing of a teacher. They forget that youth is the period for building up knowledge, manhood for using it, age for imparting it. This was the rule of old; what the rule is now, the hundreds of ephemeral volumes tricked out to obtain a temporary popularity for their authors, abundantly testify. And how is this state of things to be remedied? How are men to be made to believe that it is necessary to learn before they can teach? We know of no other way than by improving the education, both moral and intellectual, of the members of our profession; and, as a part of their education, we would especially place the study of the works of men who exhibit in their writings a spirit so different from that which is rife in the present day. As a means to further so desirable a consummation, we have hailed, and still hail, with delight, the formation of the Sydenham Society—May it flourish!

A BILL FOR THE BETTER REGULATION OF MEDICAL PRACTICE

THROUGHOUT THE UNITED KINGDOM.

The Preamble 1, recites various acts and charters, having reference to one branch or another of the medical profession, passed from the 3d of Henry VIII. down to the 6th of George IV., all of which, and "so much of any other act or charter as prohibits any person from practising physic or surgery in any place without license, or as imposes any restriction on the practice of physic or surgery," shall be repeated and annulled.

Clause 2 enacts, "That a Council shall be established, which shall be styled 'The Council of Health and Medical Education;' and that one of Her Majesty's principal Secretaries of State shall be a member of the said Council, in right of his office as Secretary of State; and that the Regius Professor of Medicine in the University of Oxford, the Regius Professor of Physic in the University of Cambridge, the Regius Professor of Physic in the University of Dublin, the Regius Professor of Clinical Surgery in the University of Edinburgh, and the Regius Professor of Surgery in the University of Glasgow, shall be members of

the said Council in right of their several professorships ; and that the other members of the said Council shall be one physician and one surgeon, to be chosen by the Colleges of Physicians and Surgeons of England respectively ; one physician and one surgeon to be chosen by the Colleges of Physicians and Surgeons of Scotland respectively ; one physician and one surgeon to be chosen by the Colleges of Physicians and Surgeons of Ireland respectively ; and six other persons whom Her Majesty, with the advice of her Privy Council, shall deem fit to be members of the said Council."

3. Refers to the appointment of the first Council, and enacts, "That it shall be lawful for Her Majesty, with the advice of her Privy Council, to appoint all the members of the first Council of Health and Medical Education, other than those who will be members thereof in right of their several offices ; and that at the end of the third and each of the two next following years after the first constitution of the said Council, one physician and one surgeon of those first appointed on behalf of the said several Colleges of Physicians and Surgeons, shall go out of office, in such order as Her Majesty, with the advice of her Privy Council, shall direct."

4, 5, 6, and 7. Bear on the tenure of their office by official members and nominees of the Crown, and by members chosen by the Colleges ; of the manner of choosing the collegial members, and of providing substitutes in cases of extraordinary vacancies.

8. Provides for the appointment of a principal secretary, and of local secretaries for Scotland and Ireland, and of clerks and messengers.

9. Treats of Salaries to the Council, Secretaries, &c. which are to be allowed by the Lord High Treasurer, or Commissioners of Her Majesty's Treasury, and expenses for travelling, &c.

10. Settles the Presidency of the Council, who is to be one of the principal Secretaries of State, who shall have the power of nominating a Vice-President from among the Councillors appointed by Her Majesty.

11. Regulates the time and place of meeting of the Council, which are to be at the will of the Secretary of State ; also the number of Councillors to be a quorum, this number being not less than seven.

12. Orders that minutes of proceedings of the Council shall be kept, and fairly entered in books kept for the purpose, which shall be open at all reasonable times to the inspection of any person or committee appointed to inspect them by any of the universities or colleges.

13. Enacts "That a register shall be kept and published from time to time, under the direction of the said Council, of all persons who shall have been examined, and shall have received, and shall exhibit before the said Council, letters testimonial as hereinafter mentioned of their qualification to practise as a physician, or as a surgeon, or as a licentiate in medicine and surgery ; for which registry the Council shall be entitled to have from the person requiring to be registered a fee of *five pounds* in the case of a physician or surgeon, and a fee of *two pounds* in the case of a licentiate, which fees shall be applied towards defraying the expenses of this Act ; and every person whose name shall be so registered, who shall be desirous that his name shall be continued in the published register, shall, in the month of January in every year, send to the said Council his name and place of abode, with the date of his testimonials, and the Council shall verify the returns so made to them by comparison with the register kept by them, and shall forthwith cause the names of all persons duly registered and so returned to them to be published in alphabetical order in their several classes, with their several places of abode, and dates of their testimonials."

14. Enacts "That no person, except such graduates in medicine and such other legal practitioners as are hereinafter mentioned, shall be entitled to be registered by the Council as a licentiate in medicine and surgery unless he shall have attained the age of *twenty-one* years, and shall have been examined by the Colleges hereinafter named ; (that is to say) if in England, examined by the Royal College of Physicians of England, assisted by the Court of Examiners of the Apothecaries' Company, and also examined by the Royal College of Surgeons of England ; and if in Scotland, examined by the Royal Colleges of Physicians and Surgeons of Scotland ; and if in Ireland, examined by the Royal Colleges of Physicians and Surgeons in Ireland ; and in every case shall have received letters testimonial from each of the bodies by which he shall have been examined, of his being duly qualified to practise as such licentiate."

15. Enacts "That no person, except such legal practitioners as are hereinafter mentioned, shall be entitled to be registered by the Council as a surgeon unless he shall have attained the age of *twenty-five* years, and shall have been examined by one of the Royal Colleges of Surgeons of England, Scotland, or Ireland, or the Royal College of Physicians and Surgeons of Glasgow, after such proof as shall be satisfactory to the examining College that he has applied himself to surgical studies during at least *five* years ; and shall have received letters testimonial from the examining College of his being duly qualified to practise as a surgeon."

16. Enacts "That no person, except such

legal practitioners as are hereafter mentioned, shall be entitled to be registered by the Council as a physician unless he shall have attained the age of *twenty-six* years, and shall have graduated in medicine in some University of the United Kingdom of Great Britain and Ireland, or, subject to the restriction hereinafter contained, in some foreign University, and shall also have been examined by one of the Royal Colleges of Physicians of England, Scotland, or Ireland, or by the Royal College of Physicians and Surgeons of Glasgow, after such proof as shall be satisfactory to the examining College that he has applied himself to medical studies during at least *five* years, or if he is not a graduate in medicine of any such University, unless he shall have attained the age of *forty* years, and shall have been examined by the Royal College of Physicians of England; and in each case shall have received letters testimonial from the examining College of his being duly qualified to practise as a physician; and no person shall be entitled to be received for examination for the purpose of being so registered as a physician upon a foreign degree in medicine, unless the Royal College of Physicians of England, Scotland, or Ireland, shall give him a special certificate, to be laid before and approved by the Council of Health and Medical Education, that they have made inquiry into the manner in which such degree was conferred, and have ascertained that it has been granted after residence within the precincts of the same University during at least *one year*, and after due examination and upon satisfactory certificates of previous study."

17. Enacts "That it shall be lawful for the same person, if possessed of the necessary testimonials, to be registered as both physician and surgeon, and for a registered physician, or a person applying to be registered as a physician, to offer himself for examination as a licentiate in surgery by one of the said Royal Colleges of Surgeons, and for a registered surgeon, or a person applying to be registered as a surgeon, to offer himself for examination as a licentiate in medicine by one of the said Royal Colleges of Physicians, assisted in England by the Court of Examiners of the Apothecaries' Company; and every such physician or surgeon shall be entitled to be also registered upon the testimonials granted to him upon such additional examination, in such form and manner as shall be determined by the said Council."

18. Enacts that every person registered after examination as a physician or surgeon under this act, shall be admitted as an associate of the Royal College of Physicians, or as a fellow of the Royal College of Surgeons from which he shall have received his letters testimonial as physician or surgeon, or if he shall have received the said testimonials from the Royal College of Physicians and Surgeons of Glasgow, then as a fellow of the last-mentioned Royal College; and every such physician and surgeon who shall afterwards remove from that part of the United Kingdom in which he obtained his letters testimonial, shall be required, if he shall practice as a physician or surgeon in any other part of the said United Kingdom, to enrol himself as an associate of the Royal College of Physicians, or as a fellow of the Royal College of Surgeons, of that part of the United Kingdom to which he shall so remove, for the purpose of practising there, according to the nature of his testimonials, and in each case shall be entitled to be so admitted without further examination, and on payment of the like fees of admission, and on complying with the same conditions as are required of other persons who have passed their examinations for the purpose of being admitted associates or fellows of the said Colleges respectively.

19. Enacts that the said several Colleges shall, from time to time, when required by the said Council, prepare and lay before the said Council a scheme or schemes of the course of study and particulars of the examination to be gone through by all persons applying to such Colleges respectively for letters testimonial as physician, or surgeon, licentiate, and of the fees to be taken for examination and admission into the said several Colleges respectively; and the said council shall be empowered to make from time to time such changes in any of the schemes so laid before them as to the said Council shall seem expedient; and the said Council shall endeavour to procure, as far as is practicable and convenient, that qualifications and fees for the said testimonials shall be uniform, according to the nature thereof throughout the said United Kingdom.

20. Enacts, that after the *passing of this Act* it shall not be lawful for any University of the said United Kingdom to confer any degree in the Faculty of Medicine upon any person, unless he shall have been matriculated in the same University, and shall have duly attended the courses of public lectures prescribed by the same University to students in medicine within the precincts of the same University, or of some medical school recognized by and in connection with the same University, during at least *Two* years next before the granting of such degree, and shall have been examined at some time before granting such degree by the proper examiners of such University, and found by them to possess competent skill and knowledge of medicine, and of the sciences connected therewith, and of the English and Latin languages at least; and

every diploma or certificate of a medical degree granted by any such University after the *passing of this Act*, shall set forth distinctly the time which has elapsed since the matriculation of the person to whom such degree shall be granted, and the time during which, and place at which, he shall dave actually studied as aforesaid, and the fact that he has passed such examination as last aforesaid.

21. Enacts that it shall be lawful for any university of the said United Kingdom to grant the degree of bachelor in the faculty of medicine, subject to the restrictions hereinbefore contained concerning medical degrees, to any student of the same university who shall have attained the age of *twenty-two* years; and that every such graduate in the faculty of medicine, being also examined and having received letters testimonial of his qualification in the manner hereinbefore prescribed in the case of licentiates in medicine and surgery, or examined and furnished with the like letters testimonial by the Royal College of Physicians and Surgeons of Glasgow, if the said degree shall have been granted by the University of Glasgow, shall be entitled to be registered by the said Council of Health and Medical Education as a licentiate in medicine and surgery, subject to such general regulations as shall be made by the said council concerning the registry of licentiates.

22. Enacts that no bye-law to be made by any of the Royal Colleges of Physicians or Surgeons of England, Scotland, or Ireland respectively, or by the Royal College of Physicians and Surgeons of Glasgow, shall be of any force until a copy thereof, sealed with the seal of the same College, shall have been laid before and approved by the said Council of Health and Medical Education.

23. Enacts that it shall be lawful for the said Council to make regulations for ensuring the registry of all medical and surgical students by the proper officers of the several hospitals or medical or surgical schools at which they shall study, and to authorize such officers to take a fee for such registration, not being more in each case than *Ten Shillings*, and for requiring all such fees to be remitted to the Secretary of the said Council, and returns to be made to them of the registration of all such students, in such manner and form as the Council shall think fit; and no hospital or medical or surgical school shall be recognized by any of the said Colleges, which shall neglect or refuse to give due effect to such regulations, after notice of such neglect or refusal shall have been sent by the said Council to the said Colleges, until the default of such hospital or medical or surgical school be amended to the satisfaction of the said Council, and all such fees shall be applied toward the expenses of this act.

24. Enacts that where by this Act it is provided that the concurrence of more than one body is required for qualifying any person to be registered by the said Council, the examination before such bodies or his Degree or Letters Testimonial, or both, may be conducted either separately before Examiners appointed by each body, or before a joint Board of Examiners, to be appointed by each body separately or conjointly, who shall be appointed in such number, manner, and form, and shall hold their examinations at such times and places as such bodies shall, with the approval of the said Council, agree from time to time among themselves, or as shall be determined by the said Council with respect to any point in which they shall not be agreed; and where there shall be separate examinations before Examiners appointed by each body, the subjects and fees of examination shall be divided among such bodies as they shall from time to time agree among themselves, or as the said Council from time to time shall determine with respect to any subject on which they shall not be agreed.

25. Enacts that the said Council may from time to time require returns to be made in such form, and including such particulars, as they shall think fit, respecting the examinations to be conducted as aforesaid, and it shall be lawful for any Secretary of the said Council, deputed by the Council for that purpose, or for any member of the said Council, to be present at any of the said examinations; and if the Council shall be of opinion that the regulations prescribed by them for the examination and grant of letters testimonial as physician, surgeon, or licentiate, have been infringed, evaded or neglected by any of the said examining bodies, it shall be lawful for the said Council to refuse to register upon the testimonials of the body so in default, until the same be amended to the satisfaction of the said Council.

26. Enacts that, subject to the reservations hereinafter contained, no person after the *passing of this act* who is not registered by the said Council shall be appointed to any medical or surgical office in any public hospital, prison, infirmary, dispensary, workhouse, or other public institution in the said united kingdom, or to any medical or surgical office in her Majesty's army or navy, or in the service of the Honourable East India Company, except in India, natives of India duly qualified according to such laws or regulations as are or shall be made in that behalf by the Governor-General in Council; and wherever by law it is provided that any act shall be done by a physician or surgeon, or medical or surgical practitioner, by whatever name or title he is called, such provision

shall be construed, after the *passing of this act*, to mean a person qualified to be appointed to such medical or surgical offices as aforesaid; and the Council of Health shall be empowered from time to time to make regulations for specifying what institutions are to be considered public institutions within the meaning of this act, and which form of testimonial shall be necessary to qualify the holder thereof for every such situation.

27. Enacts that all persons who are registered by the said Council as physicians, surgeons or licentiates, shall be exempt while practising as such from being summoned or serving on all juries and inquests whatsoever, and from serving all corporate, parochial, ward, hundred and township offices, but, subject to the reservations hereinafter contained, no person shall be entitled to such exemption on the ground of his practising medicine or surgery, who is not so registered, nor shall the certificate of any such unregistered person, given after the *passing of this act*, be received as the certificate of a medical or surgical practitioner in any court of law, or in any case in which by law the certificate of a medical or surgical practitioner is required.

28. Provides and enacts that it shall be lawful for the said Council, on the application, within *twelve* calendar months after the *passing of this act*, of any person legally practising as a physician, surgeon or apothecary, at the time of the *passing of this act*, in any part of the United Kingdom of Great Britain and Ireland, or on the application within *two* years of any person so legally practising in any of Her Majesty's colonies and foreign possessions, to cause the name of such person to be registered as a physician, surgeon or licentiate in medicine and surgery, as the case may be, on production to the said Council of his diploma, license, or certificate, or such other proof as shall be satisfactory to the said Council, that at the time of the *passing of this act* he was legally entitled to practise as a physician, surgeon or apothecary, as the case may be, in some part of the said United Kingdom, and on payment of a fee of *two pounds* in the case of fellows or associates of the said Colleges of Physicians and Surgeons respectively, and of *five shillings* in every other case, which fees shall be applied toward the expenses of this act; and during the said period of *twelve* calendar months every person legally practising as a physician, surgeon or apothecary at the time of the *passing of this act* in the said United Kingdom, and during the said period of *two years*, every person so legally practising in any of Her Majesty's colonies and foreign possessions, although not registered, shall continue to enjoy the same privileges and exemptions, and be qualified to be appointed to the same offices, and to practise in the same manner as if this act had not been passed, and no farther or otherwise, unless registered under this act.

29.—Enacts that every person appointed after the *passing of this act* to any medical or surgical office for which he is not qualified according to the provisions of this act and the regulation of the said Council, and who shall act or practise in such office, shall for every such offence forfeit the sum of *twenty pounds*, to be recovered by action of debt or information to be brought in any of Her Majesty's Courts of Record at Westminster, or in the Court of Exchequer in Scotland, or in Dublin, within *six calendar months* next after the commission of the offence, and to be recovered in the name of Her Majesty's Attorney-General in England or Ireland, or of the Lord Advocate in Scotland.

30. Enacts that after the *passing of this act*, no person shall be entitled to recover any charge in any court of law for any medical or surgical advice, attendance or operation, or for any medicine prescribed or administered, unless he shall prove upon the trial either that he is registered under this act, or that he was legally practising in the capacity in which he claims such charge before the passing of this act.

31. Enacts that every unregistered person who shall wilfully and falsely pretend to be, or take or use any name or title implying that he is registered under this act, shall be deemed guilty of a misdemeanor in England and Ireland, and in Scotland of a crime and offence, and being convicted thereof, shall be punished by fine or imprisonment, or both, as the court before which he shall be convicted shall award.

MEDICAL GAZETTE.

Friday, August 16, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO

THE NEW MEDICAL BILL—No. I.

SHALL THE MEDICAL PROFESSION BE OPEN TO ALL AND SUNDRY, LETTERED AND UNLETTERED, COMPETENT AND INCOMPETENT, PHYSICIAN AND SURGEON, QUACK AND IMPOSTOR?

THERE is much in this Bill that it seems impossible to us not to approve of; there is a little wanting to make it much more complete than it is, much more acceptable to the great body of

the profession, and we venture to add, much more beneficial to the public.

We cannot for our own part understand wherefore the medical profession alone of the several professions which require specific training and the test of competency by examination, should be deemed fit to be thrown open to all and sundry who may take a fancy to practise it.

We know that it is the rooted conviction in the mind of several influential men at the head of their particular departments in our profession, that nothing in the shape of legislative enactment can be done to prevent quackery. We will grant them, not so much indeed, but a great deal in this direction: quackery cannot altogether be prevented by any legislative enactments; but it can be discouraged, and that not negatively only, by no notice being taken of it, but positively, by being branded with its proper name; by being declared illegal, and made punishable, upon prosecution, as a high crime and misemdeanor, which it certainly is.

But quackery is not all; it is even the least, in matters medical, which a paternal government, having the welfare of the community at heart, has to guard against; the victims of the quack have money in their purses, and as the consequence of this they have rank in the world; they have often even title there, and they ought always to have education: they have that which is necessary for judgment in their own keeping; they ought to know sense from nonsense, reason from folly, right from wrong. When we hear, therefore, of Lady this, and of Sir Francis that, dying, the one under the infinitesimal globule of the quack Hahnemannist, the other under the wet blankets of the quack Priessnitzist, we feel little pity for them; on the jury in such a case, we should certainly be for following the example of the illustrious twelve who brought in the pithy verdict of "Served her right," in the instance of the shrew. It is not so much open quackery which we dread, then; we might be content to leave that to its fate. But we ask, are there none dependent on medical aid save the rich and the educated? Verily there be many—a host, and it is in behalf of these,—the poor and the ignorant, who fancy that every man with a red bottle in his window, and who smells of rhubarb and cardamoms, is a physician,—that we raise our voice. And again, we ask are there no assassins in the shape of practitioners of medicine save those who write books and work miracles, and cure consumption with a few drops of fetid spirit, and ride about in their carriages, in virtue of the lies they tell, and the successful action they maintain on the purses of their dupes? And we answer again, yea, there be many; men who are not charlatans and pretenders, men who do not fly at high game or throw dice for gold, but who are ignorant of what they do, who are incompetent through want of information—who pull out the bowels of women in travail*, and throw for halfpence, that they may live.

Surely the legislature of England, in the year 1844, cannot purpose to leave its ill-educated poor to the tender mercies of every wretch who makes pretence to a knowledge of physic and surgery, or even to the hap-hazard prescriptions of chemists and druggists, who know as much of the art and science of medicine as the kitchen-maid does of chemistry, and who are just as competent to prescribe for a sick man as were the printers who threw together the types that gave Paradise Lost and Macbeth to the world, of imagining and inditing the grandest works that ever took shape within the mind of man.

* Vide the case of John Garland, lately reported in all the newspapers.

There appears to be but one opinion upon this point in the professional mind, in so far as we have had opportunities of consulting it and collecting its sentiments. The government, for the sake of all parties, must be petitioned to revise so much of the proposed bill as refers to throwing open the profession of medicine to all and sundry. Upon proper representation we cannot doubt that this point will be taken into renewed consideration, and that that which so plainly appears to be right and proper will be finally adopted. We are inclined to say so much from the excellent spirit in which the bill was proposed.

We see one grand obstacle to the declaration of the illegality of quackery, however; it is this: that all advertising of quack medicines must forthwith and necessarily cease, and that government would not be the only loser were this the case. Government, we can believe, might be found willing to give up the few thousand pounds per annum which are derived from the stamps on patent medicines, and the duties on their advertisement in the newspapers and periodicals. But the government are not alone concerned; newspaper proprietors are still more deeply interested. It is even said that several country newspapers could not exist, were the revenue they derive from the advertisement of quack medicines to cease and determine. And then the proprietors and editors of newspapers are very commonly political agents; and the party in power in our alternate Whig and Tory administration dares not offend so influential a portion of the body politic as the agents. This perhaps may lie at the bottom of the great tenderness which Sir James Graham shows to quackery. We should indeed like to see with what countenance the Right Hon. Baronet could face the editor and part-proprietor at least of the "Cumberland Chronicle," or the "Carlisle Independent," in the prospect of an election, had he been accessory to cutting off supplies to the amount of several hundreds per annum in the shape of quack advertisements. We can all fancy the glow of virtuous indignation that would suffuse the face of the said editor and part-proprietor upon receiving the proposal of the Right Hon. Secretary for "his vote and interest," and the extreme satisfaction which the said editor and part-proprietor would have in telling the said Right Hon. Secretary that "he would see him d'd first."—Yes, the more we think of this view of the subject, the more do we incline to cherish it as containing a large infusion of truth. But it gets far into the night, and we must pause at this time, promising to discuss the several features of the Medical Bill, one after another, until we get through it all. Meantime, as we wish not to speak in the plural-singular editorial number only, but to represent the views and wishes of our friends, we shall be happy to have these for our information and guidance.

ANNIVERSARY MEETING OF THE PROVINCIAL MEDICAL & SURGICAL ASSOCIATION.

On Wednesday and Thursday, the 7th and 8th inst., the Twelfth Anniversary Meeting of this Association took place at Northampton; and the proceedings, from first to last, were characterized by as much good feeling as they were distinguished by high talent. Since the last Anniversary the association has lost its former president, Mr. Hey, son of the distinguished surgeon of Leeds, William Hey, who has made the world his debtor for one of the best practical books ever written on the most useful of all the sciences to mankind. Dr. Hastings, President of the Council of the Association, filled the chair at the beginning of the meeting, for the purpose of duly inducting the president elect, Dr. Robertson of Northampton, into his seat. In his opening

address, Dr. Hastings took occasion to pay a well-merited compliment to the merits and the memory of the late Mr. Hey; and also eloquently and feelingly dwelt, for some time, on the character and labours of the late Dr. Barlow, another of the very earliest and most zealous of its supporters which the Association had lost since last year,—a man whom all alike loved and honoured.

Dr. Robertson, on taking the chair, gave some account, historical, antiquarian, and topographical, of the good town of Northampton; and found opportunity to allude, in excellent terms, to the salutary influence which such meetings as that of the Provincial Medical and Surgical Association had upon the profession of medicine. "Assembling," said the Doctor, "for purposes partly scientific, partly social, we are brought closely together, made intimately acquainted, led to know, to appreciate, and to esteem, one another; and the jealousies, estrangements, and heart-burnings, which have been too much and too long the reproach of our profession, are thus transmuted into harmony, right feeling, and mutual regard." Dr. Robertson concluded by avowing his strong faith in the destinies of scientific medicine as opposed to quackery and delusion. "Scientific medicine," he said, "which we, in our day and generation, are honestly and laboriously cultivating, is based upon, and bound up with, all truth; their destiny is the same, and their joint triumph, though long delayed, will finally be signal and complete."

Dr. Streatham, the Secretary of the Association, then read the report, by which it appeared that the Association now numbered very nearly 1800 Members, and that, all expenses paid, there was a balance of upwards of £500 in the hands of the treasurer.

The great business of the evening meeting was the reading of Dr. William Budd's retrospective Address on the Progress of Anatomy and Physiology during the past year. This address occupied three hours in the delivery, and was distinguished for its fulness, impartiality, and ability.

On Thursday morning the leading feature of the meeting was Dr. Cowan's retrospective Address on the recent Progress of Medicine and Therapeutics, which was characterized by all that gentleman's powers, so well known to the profession at large, and, in its delivery, marked by the earnestness and heartiness of the man,—qualities which are better known among his friends.

So much for the scientific and business part of the proceedings. The DINNER, on the Thursday, was the crowning festival, and set its seal on the social element in the constitution of the assembly. Here the Medici and Chirurgi were not left to themselves; they had the society and assistance—the very able assistance—of the Mayor and magistrates, of the Rev. Sir G. S. Robinson, Bart., and of many of the clergy and gentry, of the town and county of Northampton. Nor was Apollo unrepresented in his quality of god of minstrelsy, as well as divinity of the healing art: the presence of a regimental band shewed that the descendants of the Asclepiades were not unmindful of the ancient connection between the god of music and the god of medicine; and, sooth to say, he appears to have been present with the assembly in spirit in all his attributes, as well as Hermes, who touched the lips of more than one of the speakers with the true fire of oratory.

"The Queen," "The Prince Albert," "The Prince of Wales," "The Army and the Navy," "The Bishop of the Diocese and the Church," were all toasted and drunk with brimming glasses, in spite of the lectures upon abstinence which we are wont to deliver to our patients and to the public at large; but at Northampton the great majority of us knew that we were beyond the reach of call or summons, and we therefore dared to be reasonably jolly, and to make a fair libation to Dyonusus the young.

In proposing The Bishop and Clergy of the Diocese, Dr. Robertson alluded very appropriately to the natural connection that exists between the minister of religion and the minister of nature—the medical practitioner: "They might in many respects be considered as fellow-labourers in the work of mercy."

This sentiment was admirably responded to by Sir G. S. Robinson.—"It had often been his lot to return thanks for the same toast at political meetings and on other occasions where honourable mention had been made of the clergy, but on no occasion had he felt more difficulty in responding to it than this. The real value of praise bestowed depended upon those who bestowed it; and who were so well qualified to appreciate the character of the clergy as those who entered with them into the chamber of sickness, and sat with them by the bed of death—who so well qualified to say whether the praise bestowed was merited or not, as those who witnessed the spiritual consolation offered to human sorrows, and who in their efforts to relieve the bodily suffering which God in his Providence had laid upon us all, were aware of the message of kindness, love, and mercy, conveyed to the sufferer by the good priest? The clerical and the medical professions were of a kindred character, exercising a mutual and recripocal influence one upon the other, often called to supply each others' deficiencies, and thus become fellow-labourers in the same cause, the noblest cause which could exercise the human facul-

ties—"glory to God in the highest, on earth peace and good-will to man." There were no two professions in the country who earned their subsistence on such hard terms as the parish surgeons and the parochial clergy. There were none whose labours were of a more anxious or responsible character. There were none from whose spontaneous bounty more was expected, and there were none truly from whom that bounty was more largely received. Morals and health act and re-act one upon the other, and he might safely appeal to that assembly of scientific men, and ask what would remove the material causes of disease so soon as more correct morals, wiser habits, and a more practical view of religion. He might appeal, on the other hand, to his clerical brethren, and ask where they found the readiest access for their pastoral instruction,—whether in the wretched abodes of misery and dirt, or in the comfortable tenements of cleanliness and health? Well then might the two professions sympathise together in the good work assigned respectively to each of them, and with good reason might he hail the toast as a token of that sympathy, and as an evidence, he trusted, of future benefit to be derived from their joint exertions.

This is alike creditable to the heart, the sense, and the rhetorical powers of the reverend Baronet.

The President next proposed—"The health of Dr. Hastings of Worcester, the father and founder of the Provincial Medical and Surgical Association."

Dr. Hastings returned thanks in an excellent speech, which we regret our limits will not permit us to give entire. He thanked the meeting from the bottom of his heart. He felt that, having taken an active part in founding that great association, he was in many ways amply repaid for his trouble. He felt that it was really a marvellous association. It was now only twelve short years since they first met, a small knot of members, at Worcester. Yet during that time the progress had been so great, and the increase of members so astonishing, that they might now literally be said to overspread the country. There was now no land, from the far east to the far west, where the effects of that association were not beginning to be felt. They had during those twelve years visited different places in the kingdom, and had carried the spirit of enquiry north, south, east, and west. They had every where been well received; the universities and the marts of commerce had alike thrown open their doors to them; the great end which they proposed—the promotion of peace and good understanding, the alleviation of human misery and suffering—had still procured them a welcome. They were now met in a midland district, which they were informed was the highest ground in England: after twelve years of existence, might they not on this the highest spot, metaphorically speaking, take a Pisgah view of their past proceedings and future prospects, and from the retrospect see sufficient reason to anticipate still greater prospective results? They might contemplate the Association under three aspects—first, in a scientific and literary point of view; secondly, as a scheme for benefiting their poorer brethren; and, thirdly, as a means of social intercourse. Viewing it in either of those aspects, there was something to assure them that they were associated in a good cause. If they looked at the transactions and publications it introduced to the members, they would perceive that great benefit and gratification had been experienced; and he trusted that the day was not far distant when in that respect greater improvements would arise, and that they would have more important matter to communicate. Who should say that the scheme of benevolence for alleviating the sufferings of unfortunate members of the profession and their families would not be productive of the best effects? It was true the scheme was yet but in its infancy; but he looked forward to the day when they should have the God-like satisfaction of knowing that they had relieved the sorrows and the sufferings of many who, but for their exertions, would have languished in want and misery. These were great things in twelve short years to have accomplished; but they did not surpass the gratification to which Dr. Robertson alluded, arising from the social intercourse that was the desirable and inevitable consequence of their annual meetings:—Friend joining with friend hand in hand, old friendships renewed, new ones formed; these were advantages of a high moral tendency, and he approved of every thing that tended to elevate the moral character of man, without which, indeed, the intellectual character became monstrous.

After this the Mayor made a speech, and Dr. Forbes (our own Dr. Forbes, of the metropolis we mean—the Provincials had it not all their own way) made a speech, Sir G. Lefevre (another worthy metropolitan) made a speech, and Drs. Budd and Cowan made speeches, and almost every body made a speech at last, and all owned they had been happy; and, to conclude in the words of our respectable contemporary, the Northamptonshire Herald, from which we have quoted largely in what precedes, "The meeting was a very interesting one, and the proceedings altogether calculated to produce a highly beneficial effect, both as regards the profession of medicine and the country generally."

UPON THE MINUTE STRUCTURE OF THE LIVER.

By Weber, Krukenberg, and Müller.

Unlike that of the salivary, the pancreas, mammary, and other glandular organs in which the terminal subdivisions of the excretory ducts can be readily traced as ending in free cœcal extremities, the structure of the liver in man, and, to a greater or less extent, throughout all the vertebrata, is so compact and dense as to offer the greatest difficulties in its investigation, more especially as regards the real arrangement of its ultimate secerning portion, where even the elaborate researches of Mr. Kiernan leave much doubt and uncertainty upon the mind. It is with pleasure, therefore, that, in search of further information, we would direct the attention of our readers to two papers that have recently appeared in Müller's Archives by Prof. Weber and Dr. Krukenberg, upon the minute anatomy of the liver, and in which the authors have directed their attention more particularly to the point in question, namely, the mode of termination of the hepatic ducts. According to them, the latter, so far from forming distinct lobules, anastomose freely with each other to constitute a plexus, within the areolæ of which the ramifications of the arteries and vena portæ are received, or *vice versâ*, that within a terminal plexus formed by these vessels the minute radicles of the biliary ducts are intercalated, so that in a scheme given by Dr. Krukenberg of the appearance of a portion of injected liver under the microscope, these different systems of organs are seen passing the one through the spaces left by the other in a manner very similar to the warp and woof threads of a woven piece of fabric.

"The smallest biliary ducts," observes Prof. Weber, "are of much narrower calibre than in other glands. They do not terminate by cœcal extremities, and thus form the bases of separate lobes and lobules in the substance of the liver, but anastomose in such a complex manner with each other as to form a dense net-work of canals similar to that of the afferent capillaries, and, like it, continuous throughout, and without being interrupted by fissures and septa of cellular tissue dividing it into lobules, extends throughout the whole viscus. If any doubt remain of the truth of this assertion, as based upon the ordinary processes of investigation, we have only to examine compressed sections of the liver of the frog under a magnifying power of 30, 50, or 100 diameters, to see most distinctly, without any further preparation, the above arrangement of parts. Here the plexus formed by the delicate biliary ducts is indicated clearly by its yellow colour, and that of the capillary vessels filling up their intervals by the reddish hue derived from the blood contained within them. The great difficulty which arose in all the injections hitherto made of the liver, was to tell whether the net-work rendered apparent by these means upon its surface really belonged to the biliary ducts, or was merely the capillary vessels filled by extravasation. To remove this doubt, Dr. Krukenberg filled the hepatic ducts and vessels upon one and the same liver with differently coloured masses, and then carefully examined the superficies as well as thin dried sections beneath the microscope. Upon the surface of such an injected liver, he says, "there appeared, within many of the areolæ of the capillary plexus, (filled with red), a yellow spot, indicating where the mass of that colour had penetrated the biliary canals. In other situations, a yellow streak was seen to pass out of one capillary areola to enter into another immediately adjoining, or else removed to some distance. In others, the yellow canals issuing from four adjacent vascular areolæ anastomosed so as to form a yellow ring, in the centre of which a red cross was visible, formed by the union of four capillary vessels. Again, I saw a distinct plexus given off, the one red, the other yellow, from the minute ramifications of the vessels and ducts, where they lay parallel to each other. Finally, upon making sections of the same liver, red plexuses bounded by yellow, and yellow plexuses by red areolæ, were numerous, distinctly visible, and abruptly defined. Whatever be the degree or extent of anastomosis of the capillary vessels, I am at all events convinced that I have truly injected the finest hepatic canals, and that they interlace with the blood-vessels in the manner just described." So far as the fact of a plexus being formed by the ultimate ramifications of the ducts is concerned, it will be observed that both authors already cited agree with the descriptions given by Mr. Kiernan; they dissent, however, from the opinion of the latter, that this, which they regard along with him as constituting the true ultimate secerning substance of the gland, is parcelled out into lobules by septa formed from prolongations of Glisson's capsule; and still more decidedly do they disagree with Professor Müller, who, basing his views principally upon the progress of development of the liver in the frog and common fowl, states that the last biliary ramuscules end as cœca, appended to the ducts in a racemiform fashion; and in a series of observations in the same number of his journal, containing strictures upon the researches of Weber and Krukenberg, insists further upon this as the true arrangement,

by an appeal to the conditions of the liver in the Polar bear, after maceration, and its distinctly lobular structure in a great number of other vertebrata. For our own part, we are more strongly in favour of the evidence afforded by the facts of comparative anatomy, and the study of the gradual development of glands, than of that dependent upon injection alone, as the most certain method of arriving at the truth. Now that the beautiful investigations of Mr. Bowman upon the minute anatomy of the kidney, the next most complex glandular organ to the liver, have revealed to us the real structure of its Malpighian bodies, and shewn that they consist essentially of small masses of vessels contained within the dilated cæcal extremities of the uriniferous tubes, it is difficult, reasoning from analogy, to conceive that an entirely different arrangement of parts has been introduced in the formation of the liver. We think it highly probable that it will yet come to be determined, that the extreme ends of the ducts of the human liver, like those of the kidney, remain distinct from each other, devoid of any intercommunication; and that they derive the elements of their secretion from plexuses of different vessels, constituted by the artery and portal vein, surrounding, or being received within, their walls.—*Müller's Archiv.*

INFLATION OF THE LUNGS OF AN UNDELIVERED INFANT SUCCESSFULLY PRACTISED.

By J. Couper, M.D. of Newcastle, Delaware.

Mrs. F——, having over-exerted herself, was delivered of twins at the end of her eighth month. The labour was slow, but not remarkable in any respect. The first child was a breech presentation, the spine being directed to the left acetabulum of the mother. When the head came to pass the superior strait, the cord was compressed by it, while the expulsive pains became less active than they had been. Soon after this, the pulsation of the cord ceased entirely; the usual convulsive struggle of the child followed; and then all was still. What was to be done in such a case? The spine of an eight months' child would not safely bear the force necessary to an immediate extraction. There was not time for the action of ergot. The face was not yet low enough readily to allow the fingers to be placed on the sides of the nose, that air might have access to the mouth. Nor would the *mere presence* of air have availed, for the child had already become still. In this state of things I executed a plan I had before determined on, and for which I had prepared myself, namely, to *inflate the lungs*, without attempting to extricate the child by force. For this purpose I introduced my left fore-finger, and with the point of it drew down the chin. Then, using the finger as a director, I passed one end of a long elastic tube, one-fourth of an inch in diameter, well into the mouth, and taking the other end into my own mouth, I blew briskly through the tube two or three times, and immediately I had the satisfaction to see respiration established. Muscular efforts followed, and as these stimulated the uterus to stronger contractions, the labour soon came to a happy conclusion. The tube was kept in the mouth of the child until delivery was accomplished.—*New York Journal of Medicine*, May 1844.

[The practice recommended by Dr. Couper is old, as the editor of our American contemporary shows; but we believe it is too little borne in mind, and that many children are lost through neglect of bringing it into play, who might be saved by its means.—Ed. Gaz.]

ON VEGETABLE ACIDS

AS CORRECTIVES OF ACIDITY OF STOMACH.

By St. Tracy, M.D.

Dr. Tracy had himself suffered much from acidity of stomach, and as usual sought relief from the free use of carbonate of soda; but in vain. Alkalis having failed, he now tried the influence of acids, and having taken a glass of lemonade, he at once found relief: by and by he substituted vinegar for lemon juice, and, by using vinegar pretty freely with his food, he soon recovered his digestive powers, and his general health completely. The same remedy Dr. Tracy now recommended to several of his patients and friends, and with uniformly beneficial results.—*Amer. Journ. of Med. Sciences*, Apr. 1844.

FASCINATION.

The late Lord —— had a daughter, who, falling ill at Bath, was attended by the late Mr. ——. Of course he soon persuaded her that she had a stricture of the rectum. The young lady wrote to her mama in town an account of her case, and of Mr. ——'s procedure to cure her. Mama communicated this to papa, who not liking the thing much, went straight to an eminent practitioner, who showed his Lordship the great improbability of his daughter being affected in the manner indicated; and made him aware that Mr. ——'s patients were all—man or woman, matron or maid—presumed to be affected with stricture in the rectum, and treated accordingly. His Lordship was in a great fume; he would not even write; he posted off the same evening to Bath to rescue his child from the malapraxis, as he believed it, of Mr. ——. Butwhat ensued? The London surgeon received a letter in a couple of days from

Lord ——, to say that his Lordship felt his visit to have been quite a providential one; that Mr. —— had not only satisfied him that his daughter had a stricture of the rectum, but that he himself had one, and that he meant to remain at Bath to have it cured!

INFLUENCE OF WEALTH AND POVERTY ON MORTALITY.

The time-honoured opinion that poverty is conducive to longevity—that the rich are less favoured with the blessing of health than the poor—finds no confirmation in statistical investigations. That the hardy and contented poor man is exempt from the diseases of the wealthy and luxurious, is but a poetic fiction. Irresistible evidence of this truth is contained in every document by which the rate of mortality among large numbers can be correctly ascertained. Hence, taking the whole population of a country, wealth may be assumed as a true measure of happiness, and consequently of health; and indigence as the measure of unhappiness, and consequently of disease.—*Forry, in New York Journal of Medicine*, May 1844.

SPEEDY WAY OF RAISING A BLISTER.

Take a watch-glass of the size of the proposed blister; drop into it from eight to ten drops of the liquor ammoniæ. Have ready a piece of fine linen rather smaller than the watch-glass; lay it neatly into the hollow of the glass, and immediately apply this to the skin freed from hair. In a very short time, sometimes in from thirty to forty seconds, a red circle appears round the glass, and the blister is formed.—Darcq, in *Gazetta Med. di Milano*, Feb. 1844.

UNIVERSITY OF LONDON.

FIRST EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICINE—1844.

The following Candidates have passed this Examination:

FIRST DIVISION.

	Medical Schools.
Bompas, Joseph Carter	University College.
Cadge, William	University College.
Colborne, William Henry	University College.
Copeman, Arthur Charles	King's College.
Duncan, Peter Martin	King's College.
Elam, Charles	Leeds School of Med.
Evans, David Peter	King's College.
Fotherby, Henry Isaac	Guy's Hospital.
Greenwood, Wm. Henry	Guy's Hospital.
Grimsdale, Thos. Frederic.	University College.
Hicks, John Braxton	Guy's Hospital.
Mason, Thomas Peter	Original School, Peter Street, Dublin.
Matthew, Charles Reeve	University College.
Ody, John	King's College.
Radcliffe, Charles Bland	Leeds School of Med.
Roughton, James John	King's College.
Wiglesworth, Henry	University College.

SECOND DIVISION.

Cowdell, Charles	University College.
Drury, James Samuel	Adjoin. St. George's Hospital.
Elliott, John Alexander	Adjoin. St. George's Hospital.
Martyn, Patrick	School of Physic in Ireland.
Mason, John	King's College.
Monckton, Stephen	King's College.
Morris, John Griffith	University College.
Ramskill, Jabez Spence	Guy's Hospital.
Ricards, John B.	College of Surgeons in Ireland.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Gentlemen admitted Members on Friday, August 9.—J. P. M. Smith.—W. Hitchman.—J. Clarkson.—C. C. Mead.—F. Renard.—J. L. Crosby.—J. Marshall.—E. F. Palmer.—T. H. Smith.—H. J. Hunter.—E. Robinson.

APOTHECARIES' HALL.

Gentlemen who have obtained Certificates, August 1.—J. W. Harrison, Hull.—J. W. James, Merthyr Tydfil.—T. Massey, Ringway, Cheshire.—G. Harday, Northampton.

August 8.—W. P. Brookes, Cheltenham.—G. J. Rose, Swaffham.—W. S. Kirkes, Lancaster.—J. T. Caddy, Bideford.—V. Edwards, Woodbridge, Suffolk.—J. T. Carr, Bombay.—H. Marder, Lyme Regis.—J. H. Bennett, Almondbury.—F. Renaud, Stockport.

MORTALITY OF THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, August 3.

Dropsy, Cancer, Diseases of Uncertain Seat	98
Diseases of the Brain, Nerves, and Senses	169
Diseases of Lungs and Organs of Respiration	240
Diseases of the Heart and Blood-vessels	24
Diseases of Stomach, Organs of Digestion, &c.	90
Diseases of the Kidneys, &c.	9
Childbed	9
Paramenia	0
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Arthritis	0
Rheumatism	0
Diseases of Joints, &c.	5
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.	0
Old Age or Natural Decay	51
Deaths by Violence, Privation, &c.	35
Small Pox	44
Measles	13
Scarlatina	75
Hooping Cough	13
Croup	10
Thrush	11
Diarrhœa	54
Dysentery	5
Cholera	12
Influenza	0
Ague	0
Remittent Fever	0
Typhus	33
Erysipelas	6
Syphilis	1
Hydrophobia	0
Causes not specified	5
Deaths from all Causes	1014

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, AUGUST 23, 1844.

REPORTS,

By H. Fearnside, M.B.,

OF

CASES TREATED IN UNIVERSITY COLLEGE HOSPITAL.

(*For the London Medical Gazette.*)

Hypertrophy and dilatation of the heart; obstructive disease of the aortic, and regurgitant disease of the mitral, valves; pneumonia in the right lung, and principally in its upper lobe; gastritis; enlargement of the liver; granular degeneration of the kidneys.

J. R. M., æt. 50, admitted into University College Hospital, under Dr. Taylor, May 20, 1843. A man of moderate stature and stout conformation: he has spent a considerable portion of his life in tropical climates, having left England when about 25 years of age. He spent three years in Demerara, and was afterwards for seven years a resident on the Island of Jamaica: at this time he appears to have lived freely, drinking on an average a bottle of Madeira daily: whilst here he suffered from intermittent fever, and had also an attack of yellow fever, from which he did not recover for two months: during the attack he was blistered upon various parts, and a number of boils appeared upon and around the blistered surfaces. After leaving Jamaica, he was for some time in New York, and whilst there was seized with malignant cholera, and narrowly escaped with his life. Leaving this part of the world, he spent some time in Arabia, and during his sojourn there had an attack of dysentery, from which he slowly recovered after the lapse of several months. Certain projects which he was anxious to carry into execution induced him subsequently to visit the East Indies and Australia; in both of which parts he spent a considerable time. But only meeting with disappointment and failure, he returned to England about six or seven years ago. Since this period he has had no settled means of life; his means have been gradually dwindling away; he has fallen into difficulties, and during the last four months he has often been in want of the common necessaries of life; having repeatedly passed two or three days without food of any kind, and a penny loaf has not rarely furnished the whole of his support for an equal length of time.

He appears to have enjoyed a more than average degree of physical vigour, which he partially attributes to his having for many years adopted the practice of daily bathing. He has no hereditary tendency to disease, so far as he is aware. Previously to leaving England he had an attack of rheumatism, but has not since had any return of the disease.

He thinks that during the last two or three years his health has not been so good as formerly; he did not, however, remark any special departure from the natural state until about four months ago: the symptom which first attracted his attention was a peculiar numbness of the left arm, succeeded by a loss of sensibility on the left side of the face, which was not constant, but occurred at intervals, and was not accompanied by any impairment of the motor power. About, or soon after, this time he began to suffer from dyspnœa, which was at times very distressing: for the relief of these symptoms he was bled and took mercury, and these measures had the effect of relieving him considerably. During the last two or three months he has frequently had convulsive twitchings of the muscles of the left arm; and within the same period boils have appeared upon various parts of the surface; he states that they were first seen in the neighbourhood of a part to which a blister had been applied. During the last month in particular he has had much cough and dyspnœa, and has suffered much from palpitation of the heart.

When he first entered the hospital he complained of great dyspnœa, and palpitation of the heart, and he had almost incessant vomiting, which had existed for two or three days previously: these symptoms subsided under the use of hydrocyanic acid, henbane, and effervescing draughts.

May 22d.—The countenance is anxious, and the complexion sallow; he appears desirous of shunning observation. Complains of a sense of weariness and languor, and also of inability to sleep; his slumbers being short, and disturbed by frightful dreams. The skin is dry; the surface of the body generally, and especially upon its anterior aspect, is covered with great numbers of boils in various stages of their progress; most of them are small, with indurated bases, and of a dusky-red colour; in some parts several have coalesced, producing irregular elevations.

He still has a good deal of numbness about the left arm, and especially about the extremities of the fingers; the slight convulsive movements are also at times very annoying.

The respirations are 16 per minute, and unembarrassed; he has no pain about the chest, and not much cough, but he frequently expectorates small portions of tenacious, dark-coloured, muco-purulent matter, sometimes streaked with blood.

The sound on percussion is duller beneath the outer extremity of the right clavicle than beneath the corresponding part of the left one; and the breath sound in inspiration is somewhat bronchial under both, but especially under the right clavicle, where also some muco-crepitant rhonchus is heard. Posteriorly, the whole of the right side of the chest is duller upon percussion, this appearing to be more marked superiorly than inferiorly: on both sides the respiratory murmur is feebler over the upper part, but over the lower part of the lungs it is distinct, and is almost puerile upon the left side, but it has a bronchial character upon the right side.

The impulse of the heart is too forcible, and felt over a larger space than natural; there is increased dulness on percussion over the cardiac region. A morbid sound is heard with the systole of the heart, both over the apex and base of the organ, but most distinctly over the latter; it is also heard over the arteries of the neck. There is no palpitation of the heart at present, and the rhythm of its action is regular; pulse 104, soft and feeble.

The gums are pale and turgid; the mouth rather sore; the tongue is very pale about the tip, but covered along each side of the centre with a strip of yellow fur: he complains of his mouth feeling clammy, and his taste being perverted. He still occasionally vomits a yellow bitter fluid; he has much desire for acids; no appetite; bowels confined. The liver extends about a hand's breadth below the margin of the ribs; there is no increased dulness in the region of the spleen. He has no pain or tenderness upon pressure over any part of the abdomen. The urine is pale, clear, and in reaction; sp. gr. 1015, and slightly albuminous (containing about $\frac{1}{14}$th of its volume of coagulated albumen).

Treatment, and subsequent progress of the case.—A bitter infusion, with hydrocyanic acid, was prescribed; and also a purgative of calomel and extract of colocynth. The patient had no return of the palpitation; he occasionally suffered from dyspnœa during the night, but not at any other time; he had no pain about the chest, but sometimes complained of a sense of oppression; the cough was always trifling, but the expectoration increased in quantity, and was composed of two distinct portions—one was opaque, grey, devoid of air, and appearing to consist principally of pus; the other was a thin, dark-brown liquid. After the patient had been two or three days in the hospital a coarse crepitant rhonchus was heard over the greater part of the right side of the chest, and the dulness on percussion became more obvious; he was then directed to take 5 grains of hyd. c. cretâ three times daily, and the mixture was discontinued; but, from his own irritability and waywardness, his medicine was very irregularly taken. His pulse was usually from 90 to 100, and the number of respirations 14 to 20 per minute; he has never any headache, but constantly complains of inability to obtain any sound sleep; his nights were passed in a state between sleeping and waking, from which he was frequently roused by some terrifying vision. His strength, which was much reduced upon his admission, gave way still further. Being dissatisfied, he left the hospital on May 27th, and died suddenly two days afterwards.

Examination of the body, forty hours after death.—(The autopsy was obtained with some difficulty, and took place at the lodgings of the deceased.)

Exterior.—The body was much emaciated; there was considerable rigidity, especially of the lower limbs; the swelling and redness of, and around, the boils had in a great measure disappeared; the muscles were firm and well developed, but very pale.

Permission could not be obtained to open the *head*.

Chest.—There were some rather recent adhesions between the costal and pulmonary pleura over the upper part of the right lung, and the pleura on this part was thickened and opaque; but elsewhere it appeared to be healthy. About three or four ounces of slightly bloody serum was contained in each

pleural sac. The *left lung* was of an ash-grey colour externally; it was dense, being engorged with frothy serum. Every part was crepitant, but less so than in health. The *right lung* externally was of a grey colour, mottled with dark blue spots; nearly the whole of the lung, and the upper lobe in particular, was dense, exceedingly lacerable, contained but little air, and not much blood; on a section it presented a uniform deep grey colour. The anterior and inferior margin of the lower lobe was pale, soft, crepitant, and did not contain any fluid: in the substance of the lower lobe, near this part, on sections being made in different directions, four or five small collections of pus were discovered: the size of some of them was about equal to that of a grain of barley; others were smaller. The weight of the whole lung was obviously much increased. The lining membrane of the bronchi of both lungs was reddened, and the transverse fibres were more than commonly visible; much frothy serum was found in the interior of the tubes.

The *pericardium* was healthy, and contained little or no fluid. The *heart* was much enlarged, probably weighing 16 or 20 ounces; the walls of the *left ventricle* were at least equally thick as in the healthy state, and its cavity was much dilated; there was some thickening and opacity of the mitral valves, and the musculi papillares were unusually developed; the aortic orifice was somewhat dilated; its valves were thickened, especially towards their attachments, but rather thin towards their free margins. The *right ventricle* was not enlarged; the pulmonary valves were exceedingly thin; no corpus arantii existed upon any of the segments, and one of them was perforated near its free border; the tricuspid valves were healthy, and the orifice rather large. Nothing abnormal was detected in the *auricles*. There were considerable fibrinous coagula on the cavity of the left ventricle. The *aorta* was dilated, and its inner surface roughened; the internal membrane being elevated by an opaque yellow deposit beneath it, extending above the whole of the ascending aorta: there was a narrow strip of punctiform redness, and at one spot about ¾ths of an inch above the aortic orifice there was an elevation upon the lining membrane, apparently produced by the effusion of lymph; it was about four lines in length, and two in breadth; it was closely adherent to the subjacent membrane, except at its margin.

Abdomen.—The *stomach* was distended with gas; the peritoneal coat was rather dark coloured; the mucous membrane was of a uniform deep slate-grey colour—it appeared to be softer than natural, and was covered with a thick coating of mucus; in the large curvature, and about three inches from the pyloric orifice, there was a circumscribed spot of an inch and a half in diameter, where the redness appeared to be composed of fine points; the larger vessels being less affected.

The *liver* extended for about three inches below the margin of the ribs, and upwards into the chest as high as the lower border of the fifth rib; its under surface, and anterior margin, for the depth of a couple of lines, was of a blackish blue colour, and the same hue was perceptible in spots both upon the upper surface and in the substance of the organ; internally it was pale, not granular, exceedingly firm and dense, but its cohesion was readily overcome. The gall-bladder was full of thin, very dark-coloured bile.

The *spleen* was not enlarged, and it contained but little blood.

The *kidneys* were small, being not more than half their usual size: on stripping off the capsules, small portions of the cortical substance were raised with them, leaving the surface rather coarsely granular; and these granules were seen to occupy the whole of the cortical substance, which was dark coloured, and in some parts exceedingly thin.

Remarks.—One of the first circumstances calculated to arrest the attention in this case, was the marked sallowness of the complexion, and the anxiety and restlessness of the countenance; which at once led to the suspicion of the presence of some severe organic disease. On examination, there was found to be evidence of hypertrophy and dilatation of the left ventricle of the heart; which was indicated by the increased dulness on percussion over the cardiac region, and the extended and forcible impulse of the heart, which was felt principally in the situation of the left ventricle: there was also some valvular disease. The murmur with the systole of the heart might have been produced either by regurgitation of blood into the left auricle, or obstruction to its passage into the aorta: the fact that the morbid sound was heard more distinctly over the base than the apex of the heart, and its being audible over the course of the blood-vessels, pointed out that its principal seat, at any rate, was in the aortic valves; although it is more than probable, from the state of the mitral valves which the autopsy disclosed that some regurgitation of blood into the left auricle did take place.

In the lungs, there were well-marked indications of the consolidation of the tissue of the right one, and that this chiefly affected its upper part—this was evidenced by the dulness on percussion, and bronchial character of the respiration. These signs, taken in connection with a review of the circumstances in which the patient had been

placed for some time—actual want, and its concomitant train of evils—the fact that he had been failing in health for some time before he fell into this state of positive misery—the slight cough, and the muco-purulent expectoration, sometimes containing blood, appeared at first to render it probable that the condensation was owing to the presence of tuberculous matter in the lung. But, in the course of a day or two, the existence of inflammation in the right lung became more unequivocal; the dulness on percussion over the lower and posterior part of the side became more obvious, although still less considerable than over the upper part of the lung, and a coarse crepitant rhonchus became audible over various parts of the side. In reference to this subject, it may be worth remarking, that there was an almost entire absence of any criteria but the physical signs by which the pneumonia could be detected; the pulse, though accelerated, was weak; there was no pain in the chest, nor any unnatural heat of the integuments; dyspnœa was only occasionally experienced, and a sense of oppression about the chest was complained of but a short time before he left the hospital.

In addition to the above-mentioned diseases of the lungs and heart, several of the abdominal viscera were also diseased. There was great irritability of the stomach, as evidenced in the almost incessant vomiting; but although long-continued abstinence does tend to induce a low inflammatory condition of the mucous membrane of the alimentary canal, yet the symptoms in this case did not seem to prove the existence of more than great functional derangement of the stomach; there was no epigastric pain or tenderness on pressure; the tongue (though a fallacious guide) was pale; he could take warm fluids without inconvenience, and his desire for acids arose more from the state of his mouth than any other cause.

The extent of the dulness on percussion over the right hypochondriac region indicated considerable enlargement of the liver. The patient had spent a large part of his life in hot climates, which are known to be peculiarly apt to impart a disposition to hepatic disease; he had also been in the habit of indulging freely in intoxicating liquors, which, in common with other liquids slightly or not at all nourishing, are absorbed by the veins, and must, in transit to the heart, pass through the liver.

The constantly albuminous state of the urine, and its rather low specific gravity, rendered the existence of granular degeneration of the kidney highly probable; although it does not appear to have at any time given rise to the production of dropsy. Viewing this disease as being due to the deposition of lymph of low vitality in the texture of the kidneys, we might refer its origin to the period when nutrition especially began to suffer, in consequence of defective nourishment; it may be connected also with the existence of the cardiac disease, since observation has proved, too, that the affections are frequently associated.

The eruption of boils upon the surface of the body, is interesting, when viewed in relation with the impairment of the quality of the circulating fluid, both from defective supply of new material, and also from one of the principal emunctories of the system failing in its purifying action. From the operation of both of these causes it is easy to conceive that the blood must have been altered in quality, and instead of affording that appropriate pabulum which each part of the system requires for its nourishment, a fluid was exuded in particular localities, not adapted to take on the specific organization of the part, but irritating, and giving rise to local inflammation. The same observations will apply to the occurrence of a similar eruption in the decline of the attack of yellow fever, from which the patient had formerly suffered; as the composition and character of the blood are known to be greatly changed from the normal state in this disease.

As a result of this diseased condition of so many organs, the nervous system of the patient was unduly sensitive—as was manifested in his irritability of temper—intolerance of sound—insomnia, or broken and disturbed sleep—in his abrupt mode of speech, and the spasmodic starting of the limbs.

The *prognosis* in this case was very unfavourable, from the number and serious character of the organic diseases under which the patient was suffering; and still more so from the extent to which the constitution had suffered from privation, and from the depressed state of the nervous system.

In the *treatment*, the first indications were to allay the palpitation, dyspnœa, and sickness; and these being fulfilled, a mild bitter was given to improve the tone of the digestive organs. But as soon as the existence of pneumonia became certain, this was discontinued, and mercury was exhibited; this being a more suitable remedy than antimony, on account of the general depression of the patient, the irritability of his stomach, and especially because effusion into the texture of the lungs had already taken place—a pathological state over which antimony appears to exert but little power. It is to be regretted, that, from the self-willed character of the patient, no system of treatment devised for his relief was fully carried out.

The post-mortem examination of the body disclosed one or two circumstances of con-

siderable interest. No tubercular matter was found in the lungs, although, from the symptoms and physical signs observed during life, its existence had been suspected. The greater part of the tissue of the right lung was in a state approaching closely to grey hepatization, and in some situations there were small collections of pus; the upper lobe of the lung was (contrary to the rule) more affected than the lower ones; and this explains the supposition, previously mentioned, of the existence of tubercles.

The greater part of the structural lesions found in the heart were such as had been anticipated; but, in addition, the mitral valves were found somewhat diseased, and might have had a share in the production of the morbid sound heard over the apex of the heart during the life of the patient, but as the left auricle was little, if at all, enlarged, it is not probable that regurgitation of blood, to any extent, occurred into its cavity.

The slate-grey colour of the mucous membrane of the stomach may have been owing to alteration of the blood in the tissue of the part, by transudation of its fluid parts, or the chemical agency of the liquids which may have been in contact with it. But taken in connection with the diminished consistence of the membrane, it appears more probable that there had been some inflammation; the punctiform redness near the pyloric orifice was more unequivocally of an inflammatory character.

ON DISEASE OF THE BRAIN, TEMINATING FATALLY,

THE RESULT OF COUP DE SOLEIL, OR INSOLATION.

By James Whitehead, M.R.C.S.E.
Surgeon to the Manchester Lying-in Hospital, &c.

(For the London Medical Gazette.)

Although instances of cerebral disease similar to the following are by no means of very rare occurrence, whether in regard to their symptoms or their pathological characters, yet may the two subjoined cases be deemed not altogether uninteresting, inasmuch as they appear to have originated from a cause which is generally believed to be almost inoperative in this climate, and whose influence, consequently, is not at all times adequately guarded against.

Case I.—A family residing at Manchester were spending part of the summer of 1843 in the neighbourhood of Didsbury, a delightful and healthy district on the banks of the Mersey, and about six miles from the town. On the 11th of July, the day being exceedingly fine, the atmosphere serene and clear, the children were out playing in a hay-field, and exposed for several hours to the beams of a powerful sun. The youngest, a boy twenty-five months old, was, like the elder ones, romping about without hat or other covering to his head. In the evening he was observed to be unusually lively and boisterous, and continued awake, though not fretful, till a late hour. During the night he awoke several times, wanting to drink, and at seven o'clock the following morning complained that he was poorly. Some light food was immediately procured for him, which he refused; and it was discovered that he had lost the power of speech: he could not afterwards be persuaded to utter a word. He was considered to be very forward in talking, and whilst awake seldom ceased to exercise this faculty.

Betwixt 8 and 9 o'clock he was seized with convulsions, and immediately brought to Manchester, where I saw him at half-past 9. He was at that time violently convulsed from head to foot, the features contorted in every possible way, and the shocks, which seemed to be synchronous with the movements of the heart, produced a short groan at each return. The most active treatment was at once put into practice, but the convulsions never abated, except for two or three minutes after bleeding, until a few minutes before death. He died at 2 o'clock, seven hours after the loss of speech, and from twenty to twenty-four after the exposure. He had never before had any illness.

On inspection, the pia mater on the surface of the hemispheres was turgid, but the substance of the brain appeared healthy. The ventricles contained about an ounce and a half of fluid. The medulla oblongata, pons Varolii, and neighbouring parts of the base of the brain, appeared to be covered by a deposition of adventitious membrane betwixt the arachnoid and pia mater. This appearance, however, was no longer visible on raising the arachnoid membrane, which appeared healthy; but the pia mater was in the highest state of vascular turgescence. The abdominal viscera were all quite healthy.

Case II.—On the 11th July, 1844, I was requested to see an infant five months old, labouring under convulsions, and who had, on the same day, been brought home from the neighbourhood of Altrincham in Cheshire, where the family had been a few weeks residing for the benefit of change of air. The child, whom I had known from birth, was a fine, plump, healthy boy, and had never had any indisposition of consequence until the present seizure. On the day but one previously, the weather being exceedingly fine and hot, the baby was nursed about the garden and farm-yard, with his cap occasionally off, for two or three hours during the middle of the day, exposed to the rays of a scorching sun. Several times the nurse's attention was attracted by his holding his breath, and fixing his eyes intently for a long time together, and then sighing very deeply and slowly. This was frequently repeated during the afternoon and evening; and before bed-time it was thought advisable to put him in a warm bath. During the following day these "staring fits" returned several times, and in the evening he had a slight attack of convulsions. On the following day (the 11th), appearing in no way improved, he was brought to Manchester. A dose of castor oil had in the meantime been administered, by which the bowels had been freely operated upon. At my first visit the child had nothing particular in his appearance, except that his countenance was somewhat more pale, and he was not so lively as usual. Knowing nothing at that time of the previous history of the case, and believing that he might be suffering from the irritation of teething, or from improper diet, he was prescribed a dose of the Mist. Magn. c. Rhæo twice or thrice a day, and Hydr. c. Cretâ at bed-time. On the 12th and 13th he seemed better, but was said to have had several slight convulsions. The tongue was very slightly furred; pulse 100. On the 14th he was much worse, the convulsions having come on in the night, and continuing to recur every twenty or thirty minutes. The whole body was violently affected: the eyes turned upwards and to the right side, the mouth drawn in the same direction, the pupils dilated, snorting in the breathing, and slight foaming at the mouth. Pulse between 60 and 70. Ordered a leech to be applied to the mastoid process on each side of the head. Hyd. c. Cretâ, Pulv. Rhæi, aa. gr. ij., 6tis horis sum. Lotio frigid. capiti appl.

15th.—The bleeding seemed to have afforded relief, as the convulsions were not so strong, and less frequent. He appeared to be a little conscious during the intervals between the fits; swallowed greedily a few spoonfuls of milk, which, however, was soon after rejected. The bowels had been freely acted upon.

16th.—The convulsions were as strong as ever, and returned every ten minutes—sometimes more, sometimes less—and in the intervals he sank into a state of coma. He seldom opened his eyes; swallowed with difficulty; sickness not so frequent; pulse 70. As the bowels had not acted for twenty-four hours, a dose of castor oil was ordered. From this period to the 20th the convulsions increased in frequency and severity, and affected the right side of the body considerably more than the left. Pulse 60 to 70.

On the 21st he was in a state of coma, pupils contracted, pulse upwards of 100, and afterwards much quicker. He died on the 23d.

Inspection.—On taking away the calvarium, the brain, which on its surface was healthy to all appearance, subsided considerably, projecting laterally over the edges of the divided skull. On this account the whole mass was removed with the greatest possible care. On the hemispheres being allowed to fall gently asunder, the corpus callosum tore through along its left side, into the corresponding ventricle, and a quantity of clear fluid rushed out, carrying with it several flocculent shreds, which looked like flakes of coagulable lymph. The hemispheres were then carefully supported towards each other, and the corpus callosum cautiously raised, with a view to examine the subjacent parts; but the whole central mass was so soft and pulpy, that the posterior commissure broke down, and the rest of the fluid escaped from the ventricles, carrying along with it the fornix in shreds like half coagulated albumen. The septum ventriculorum could not be distinguished. The corpora striata, the thalami, and neighbouring parts, were all equally soft and pulpy. The medulla oblongata and pons Varolii were covered with a deposition of thick adventitious

membrane, the former being so pulpy as to break down on being handled.

The pernicious influence of the sun's rays upon the brain and nervous system in hot climates is well known, and due caution is habitually observed in guarding against it. Nor does there appear to be any reason why, in our own more temperate latitudes, impressions fully as effective in their action should not be experienced, since the mischief arises more from the sudden change from one extreme to another, and the operation of influences to which the constitution is unaccustomed, than the absolute amount of heat or light which, by gradual initiation, it can be inured to withstand. Disastrous consequences resulting from the application of light alone, whether solar, electrical, or artificial, when of considerable intensity, and especially if the eye for some time previously have been accustomed to an obscure medium, are not unfrequently met with in the form of retinitis, which has been known to extend to the brain, and to terminate fatally. The heat of the sun is known to have a powerful effect upon the cutaneous surface, producing erythematous inflammation, eczema, &c. accompanied often by alarming constitutional disturbance, vomiting, diarrhœa, fever, and even delirium. Guérard recites, that in 1819, whilst some Swiss soldiers, in garrison at Lyons, were on parade, during the middle of a hot sunny day, a great number of them were suddenly seized with dimness of sight and headache, accompanied by various other symptoms, such as nausea, vomiting, loss of appetite, fever, &c.; and numerous instances of the kind are elsewhere on record. Cruveilhier (Nouv. Bib. de Méd.) gives the case of a man, aged 42, who, after exposure to the sun whilst walking in a procession without his hat, was seized with headache, which was very violent, and became intermittent. It continued six weeks, after which it ceased, but left amaurosis. Then followed fever, and death. Another case is given by Dr. Abercrombie (On the Brain, Case 68), of "a young man, aged 15, who, after bathing in the Tweed, lay down on the bank and fell asleep, without his hat, exposed to the intense heat of the sun. On awaking he was speechless. He was bled, &c. and the next day recovered his speech, but lost it again at intervals several times during the three or four following days. He was forgetful, and his look was dull and heavy; he complained of uneasiness in the back part of his head. After a few days more he had squinting and double vision, with a very obstinate state of the bowels, and his pulse was 60. After farther bleeding, &c. the pulse rose to 86; but he sank gradually into coma, and died on the 30th"—twenty-five days after the seizure.

Out of twelve hundred and sixty-six cases of insanity, which M. Esquirol has arranged in tabular form, twelve are noted as having been caused by insolation, or sun-stroke. Sedillot (Journ. Gén. de Méd.) cites the case of a child, seven years of age, who was playing in a court-yard surrounded by white-washed walls, from which the rays of the sun, which shone full into the inclosure, were powerfully reflected. He was attacked with convulsions, and died in half an hour. On inspection, effusion was found to have taken place upon the hemispheres of the cerebellum. Van Swieten regards insolation as capable of producing impressions which may prove speedily fatal:—"Si non bene tecto capite æstivis solis radiis homines diù exponuntur: unde pessima et sæpè subito lethalis phrenitis nascitur." He relates, in illustration of this proposition, the cases of two reapers, who were lying down on a heap of hay with their heads uncovered, and exposed to the intense heat of the sun, both of whom shortly after died:—"A sociis expergefacti titubabant, incondita quædam obmurmurabant, et paulo post moriebantur ambo." (Phrenitis, t. ii.) In another passage the same author quotes from Boerhaave (Comment. t. iii.) the case of a man who, by insolation, had a violent fever, which soon merged in hydrophobia*. It is useless multiplying quotations, which might be carried to a considerable extent.

The practice which has for a length of time prevailed, and even grown into a kind of fashion, of turning out infants to the powerful influence of a summer's sun, at the age of a few months, without hat or other covering for the head, is injudicious in the extreme. Under pretext of hardening their heads, the little creatures are exposed, through the summer months, at the windows, to the direct rays of the

* Dict. de Méd., art. *Lumière*, par Guérard.

sun, and in the garden or play-ground, without any artificial protection whatever, and long before nature can have furnished an adequate one of her own production. Since my attention has been more carefully directed to this subject, I have frequently met with cases of febrile irritation, accompanied by diarrhœa, languor, fretfulness, &c.—sometimes vomiting, drowsiness, and convulsions—having come on while the child was in the nurse's arms, at the window or in the garden, and which could be traced to no other cause but exposure to the sun.

A case was under my care, of cerebral disease, which terminated fatally two or three days since, in a child two years old. The illness commenced on the evening of an intensely hot day, four or five weeks ago, the child having been exposed for several hours, in the middle of the day, on the sea-coast. The first symptoms were nausea and vomiting, deep sighing, loss of appetite, rolling of the head during sleep, &c. I was called in four days only before death. The symptoms then were, partial coma, alternating with fits of incessant whining and fretfulness; occasional vomiting; pulse 140; pupils dilated—the left larger than the right; occasional squinting; mouth slightly drawn to the right side. The day before death the pulse had risen to 180; she was in a state of coma from which she could not be roused; pupils contracted; mouth much distorted; eyes suffused. Six hours before death convulsions came on, and seemed to cease only with life. An inspection could not be procured.

Manchester, Aug. 2, 1844.

ON

A NEW CRANIOSCOPY,

UPON A SCIENTIFIC FOUNDATION:

A Lecture delivered at Leipzig, on the 3d of February, 1844,

By Dr. C. G. Carus,
Medical Privy Councillor, and Physician in Ordinary to His Majesty the King of Saxony, &c. &c.

TRANSLATED FROM THE GERMAN,

By J. C. H. Freund, M.D.

[Continued from p. 629.]

(For the London Medical Gazette.)

It may here be well to premise upon what grounds these new cranioscopical researches are based, in what respect they do not entirely lack a strictly scientific foundation what results may be expected, what inferences drawn from them, and what amount of circumspection becomes necessary in applying the principles thus obtained for the purpose of forming a judgment upon the organization of individuals. It must be left to the physiologist, and to the medical practitioner who claims the name of physiologist, to make the applications in individual cases; but at the same time, the greater part of the educated public will be put on that level which will enable them to follow, though it may be from some distance, cranioscopic investigations with a due degree of respect and interest, and to permit them to escape the risk of remaining sceptical whether researches and studies of this kind are to be mixed up with sneirocriticism, (interpretation of dreams) and the trumperies of chiromancing gypsies.

It becomes, at this point, of the utmost importance to have at least some clear conception of the most difficult part of physiology, viz. of the functions of the nervous system, and its relation to what we call the conscious soul (bewusster Geist). All that can be said of the meaning attached to the parts of the brain, and the structure of the skull, naturally receives its support from this source.

If it be true—and our intrinsic consciousness of truth, provided we be capable of perceiving it, assures us that it is so—that every living creature as a whole, or constituting what we are wont to call an organism, is, like the apparent world, "dependent" for its creation on an eternally creating divinity; on a spiritual eternity (Geistiges Urbild) on the very idea of what is to be created, it necessarily follows that the human organism must have such a spiritual eternity for its primeval and original cause. This spirit, this idea is it, that shews itself in the appearance of our organized body, from the first microscopic commencement to the gradually increasing development of the human form. It shews itself partly as a living thing unconscious of itself, partly as something which has acquired consciousness, appearing as the psyche, and at last in its supreme perfection as a reasoning spirit.

That which we therefore call our

organic structure is nothing but the reflection of that primary divine spirit represented within a *natural thing*, which progresses gradually according to certain most remarkable laws through a constant series of changes of its elements.

This spiritual eternity in our being, which is the cause of the organism becoming *such a one as it is, and no other*, is alluded to by Goethe in these lines:

"According to the law to which thou owest thy being
So must thou be—thou canst not fly thyself;
Nor time nor pow'r can e'er to atoms break
The minted form that once has come to life."

The more delicate, the more homogeneous in itself, the more semifluid the structure which is produced by this creating principle, the more is it influenced by every unconscious or conscious stimulus of that divine original; and this is the reason why what in the organism gets hard and substantial, becomes much less susceptible of those stimuli, and consequently much less active, than that part which retains the semifluid consistence and thoroughly impressionable quality. The part, therefore, that is most imbued with life, and that best represents the idea of the organism—in one word, the most *psychical* system of the organism—will be that which continues or remains constantly in that soft and semifluid condition; it will be that to which we give the name of *nervous system*. If a clear idea is desired of the nature of the relation which exists between the conscious processes of the psyche, and the central organs of this system, we need only recollect how necessarily and most essentially the whole variety of our sensuous impressions is dependent on the minute and semifluid extension of one of those sensuous nerves. Take, for instance, the open eye of an animal, and looking at the particle of the grey and soft retina which receives the impression of light, say to yourself:—just as the whole sphere of our impressions of sight is necessarily connected with a similar particle of such nervous substance as its organic representative, so in the same manner is every psychical life that has obtained consciousness connected with the wonderfully delicate organization of the brain, as its organic condition; and it is but thus that a correct idea is obtained of the relation which takes place between the nervous structure and psychical life. Although what has just been said may suffice in general to afford at least *some* idea of the organic meaning of the nervous structure, it will be necessary to call to mind some other points of the doctrine of the nervous system, so as to ascend in our knowledge to the comprehension of a new kind of cranioscopy, founded on scientific principles.

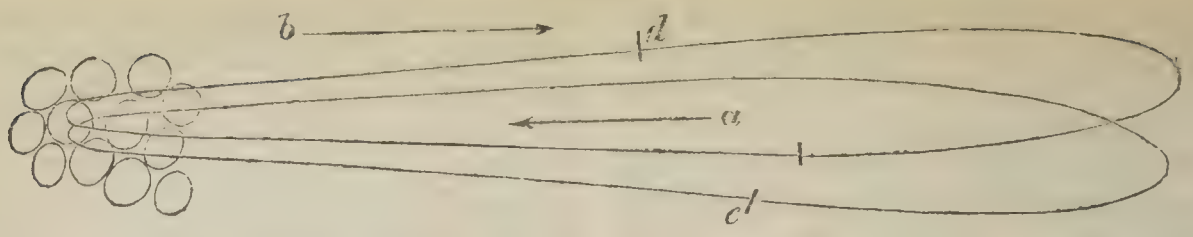
We refer here, first of all, to the following fact. The most accurate experiments by the aid of the microscope have shown that this nervous substance is of a double nature, one very different from the other; there is, namely,

1. An *original* nervous substance, upon which depends the very first germ of the brain, the spinal chord and the nerves, a substance that remains essentially in the brain, consisting of very fine microscopical vesicles or cells.

2. A substance which is of *consecutive* origin, constituting entirely the system of nerves properly so called, and at the same time a very great portion of the brain and spinal chord, consisting of fibres of the utmost delicacy of structure, recognizable only under the microscope. If we apply the term of *innervation* to that quality of the nervous system which becomes apparent and active in organic life, then we have further to remark that it is in the primitive fibres alone that the conductive power or stream of this *innervation* exists, while it is a fact that it is the primitive and vesicular substance which governs the *development of this innervation*, and gives rise also to the various internal incitations to that faculty, called by us the *conductive* quality of innervation, which may be now augmented, and now diminished in degree. We therefore see that the same difference which occurs in the organic structure of both substances also shows itself in the sphere of their functions.

Further, as regards the conductive innervation of the fibrous substance, it is partly *centrifugal*, that is, *proceeding* from the brain as its centre; and partly *centripetal*, that is, *recurring* to the brain. (See figure top of next page.)

The latter (*a*) is the cause of sensation, and conveys to the brain all the impressions of the external senses; on the former (*b*) is dependent the reaction of the nerves or other organs in general, and the incitation to active function especially. All that I have just stated



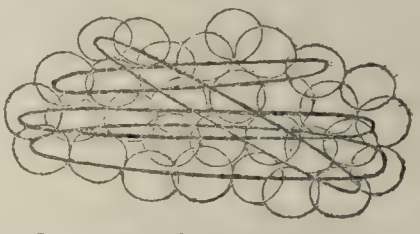
can be practically proved according to physical laws. A section or ligature of those nervous fibres which are acting *centripetally* (*c*) at once interrupts sensation, and does not allow any sensuous impressions to reach the mind; and any division or ligature of the centrifrugal fibres of other nerves (*d*) immediately intercepts any possibility of reaction, and especially that of motion.

But with respect to the development and the tendency of innervation continually remaining in, or adherent to, the vesicular substance of the brain, we are obliged to yield a certain amount of belief; and even here it can be proved by experiments that a certain relation takes place between this constant tendency and the surrounding world, as regards those impressions which remain unimpeded.

Suppose, for instance, the optic nerves to be destroyed; certainly from that moment there will not enter into the psychical life any new impression of sight, but those visual impressions which formerly have taken place will nevertheless remain. People who have lost their sight, in some way or other, fancy or dream, for a very long period afterwards, that they really are able to see like other men, and it is only in children who have lost their sight that any rapid transformation of the original cerebral substance is followed by an early loss of the optic impressions which had been made up to that time. Persons who have suffered the loss of a limb by amputation retain from the same reason very distinctly all the impressions of the removed extremity, so far even as to experience a sense of pain in the extremity that is gone.

From all this it becomes evident that some modification of the tendencies of innervation is domiciled, as it were, and retained in the brain, which is to be considered as the conductor and inciter of impressions generally.

Finally, it must be remarked, that it is not only the fibrous substance of nerves which enters the brain for the external centrifugal and centripetal streams of innervation, but that there also gradually developes itself in the brain a *peculiar* fibrous substance which penetrates with endless radiations every region of its original vesicular substance, and synthetically unites the whole system, which substance, the more it is elaborated, so much the more does it become bound up with the unity of psychical life. It is thus that all impressions must be brought into relation one with another, and thus connected in the most perfect manner with the unity of the pysche.



After these explanatory remarks, we are enabled to enter more closely into the different formations of the brain by which this most important organ of a psyche that has attained to consciousness of itself makes its appearance in the whole animal kingdom, including man. Here we have likewise to call to mind some points which are particularly characteristic:

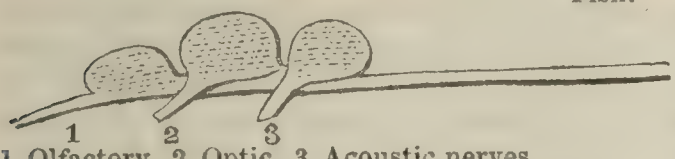
1. In those animals which are *not* conscious of psychical life, or in which there exists only an obscure consciousness of the external world, we find that the nervous substance which is to represent the brain, and from which the optic nerves only take their origin, is generally but a simple and roundish nervous knot (*a*).



2. In the superior animals, in which more distinct impression and sensation of the external world are developed, and where, commencing with fishes, and passing through reptiles, to birds and mammalia, all the three important capacities of psychical life, namely, *perception*, *feeling* (the sphere of the passions), and *will*, become apparent with certainty; though, what is most supreme, the possession of a reason-

ing spirit is never obtained, the structure or formation of the brain divides itself throughout into a trinity, and every where are we enabled to distinguish very clearly three different masses of the brain, to which we apply the names of anterior, middle, and posterior cerebrum.

Fish.



1, Olfactory, 2, Optic, 3, Acoustic nerves.

Amphibian.



Bird.



Mammal.



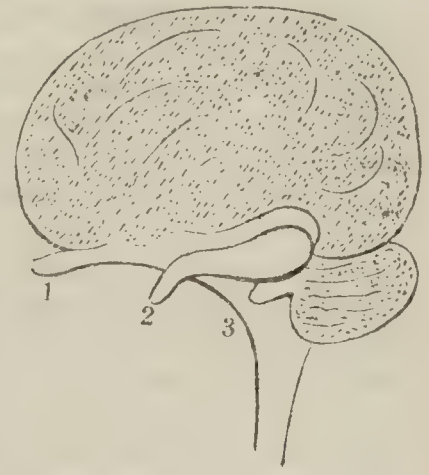
Of these three cerebral substances the middle part most reminds us of the simple cerebral knot which we meet with in the lower orders of animals, and which it resembles thoroughly in giving origin to both optic nerves.

From the anterior brain the olfactory nerves arise; and, throughout the whole animal kingdom, the more the faculty of perception, the intellect, of the animal is developed, in like manner, step by step, do we witness corresponding superiority in this portion of the brain.

From the posterior brain the acoustic nerves proceed. These are the nerves of the sense most capable of conveying the finest psychical impressions—it is the most highly spiritualized sense; and the posterior cerebral knot is situate next to the spinal chord in which the primitive fibres of the extremities are united, that is to say, the most essential conditions to motion.

3. The same tripartition, as regards its essential nature, has the human brain, with this distinction, that the proportion of its masses amongst themselves is very different, the anterior part of the brain obtaining an enormous size and development, and the posterior, in its proportion to the middle part of the brain, being likewise of considerably greater size, and of finer structure; while the middle portion, on the contrary, remains limited both as to place and development.

Man.



1, Olfactory, 2, Optic, 3, Acoustic nerves.

4. The human brain, in its gradual development, is a true repetition of the forms met with in the lower orders of animals; in the embryo of two months it resembles that of fishes, and it acquires its full size at the period of seven years, but continues, as regards the inward structure of its fibres, in a progressive state towards perfection. On the circumstances above mentioned, namely, on the gradual increase of the brain's tripartite development, we base our statements by which we think ourselves justified in saying—(and thus we are approaching to a most important circumstance for the foundation of a scientific system of symbols as regards the brain)—that these essential masses of which we have given the different descriptions do not only vary with respect to the origin which they give to the nerves, of the great sensuous organs, but that they do so as regards their *psychical meaning*.

The middle portion of the brain, peculiar even to animals which have either no consciousness of themselves or are only conscious of the world surrounding them, is in the higher orders of the animal kingdom likewise the representative of the obscure and unconscious psychical life, or in other words of obscure *sensibility;* the anterior part of the brain—which rises in its development in proportion as does the faculty of perceiving, and attains, in man, under the name of the hemispheres, an enormous degree of development—represents *perception;* the posterior part of the brain,

which receives the nerves of the motory senses, taking its position next to the commencement of the spinal chord, represents *volition;* or, in other terms, the decisive power on every kind of reaction towards the external world, the incitement to every motion that is to follow, the impulse in general to every kind of action.

The distinction of each of these three substances, and consequently that of their respective signification or meaning, is necessarily the more perfect the less strong the relation which is worked out amongst these three masses by the higher development of the interior fibrous tissue of the brain; at the same time, it must be evident that the more intimately the three masses become connected between themselves by endless conducting arches, the more diminished also, and even entirely suspended, becomes that local relation which originally existed between the three fundamental capacities of psychical life, and the three parts of their organic representative; viz. the brain.

From the same reason, it will be easily understood that in animals of a lower order, where the brain abounds less in an interior fibrous tissue, and in that unity which is everywhere conspicuous in this structure, physiological experiment best succeeds in proving the local relation which exists between the different tendencies of the psyche and the organs of the brain. The French physiologist, Flourens, who, perhaps, instituted most carefully the greatest number of experiments, by depriving animals, and especially birds, of separate parts of the brain, has found, throughout his experiments, that the abstraction of the anterior part of the brain throws the animal into a death-like state of stupefaction and drowsiness, with a suspension of all perception; and in the same manner we can convince ourselves, in experimenting upon young mammalia, that pressure or abstraction of the hemispheres is immediately attended with the same state of sopor. And, on the other hand, Flourens has seen that the abstraction of the posterior brain (the cerebellum) was invariably followed by suspension of all regular motion, whilst the perception of external objects remained perfect and unimpaired. He very justly remarks as follows on the symptoms which appeared on that abstraction:—C'est une chose surprenante de voir l'animal à mesure qu'il perd son cervelet, perdre graduellement la faculté de voler, puis celle de marcher, puis enfin celle de se tenir debout."

But of a dove, which continued to live a very long period after being deprived of its cerebral hemispheres, or the interior brain, he speaks in the following terms:—"Figurez vous un animal condamné à un sommeil perpétuel, et privé de la faculté même de rêver durant ce sommeil, tel à peu près était devenu le pigeon auquel j'avais retranché les lobes cérebraux."

Experiment, then, confirms, in the most decided manner, what the comparative anatomist pronounces upon the brain's development, as the original primitive organic representation of the threefold disposition of all higher developed psychical life, *perception*, *sensibility* (the feelings), and *will*. The tripartition of the cerebral mass must take its origin in the anterior, the middle, and the posterior brain; but it must be remarked, that it only gives origin to the organic expression of a psychical tripartition, and as such is primitive; but, at the same time, the more the interior organization of fibres operates in its progressive development to establish an unity of the whole cerebral structure, the less can one think of ascribing a certain disposition of the psyche to a certain and circumscribed portion of the brain. If anything were wanted to prove the absurdity of Gall's doctrine, in which he attempted to establish that certain tendencies of the soul which have been most unlogically separated (for instance, the faculty of comparison, that of locality, secretiveness, ideality, theosophy, &c.) are to be seen expressed on some part or other of the surface of the cerebral mass, and organically confined and circumscribed—if there were nothing else, I say, to disprove that doctrine, it would be evident, from the foregoing observations, that in the superior orders of animals the more the brain itself progresses towards its development and perfection as one whole, so much the more do the three primary and grand divisions of psychical life become less and less dependent upon the three original masses of the brain as regards their signification*.

[To be continued.]

* *Erratum.*—In the No. for August 9, p. 627, l. 54, *for* "intellectual and active development," *read* "intellectual, affective, and active," &c.

REMARKS ON

PROFESSOR LIEBIG'S VIEWS OF THE COMPOSITION OF URINE.

By Golding Bird, A.M. M.D.

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(For the London Medical Gazette.)

Several statements in the recently published researches of Professor Liebig on the normal constitution of urine*, especially command attention, no less on account of the high reputation of their distinguished author, than from their militating against some of the most generally received opinions on this subject. I now venture to offer some remarks on the following points, which possess, perhaps, greater interest than many others.

1. The presence of hippuric acid in the urine.

2. The functions of the tribasic phosphate of soda.

1. *Hippuric acid.*—We are almost exclusively indebted to Liebig for all the knowledge we possess of this substance. Long mistaken for benzoic acid, the latter was stated by Scheele to be a constituent of the urine of infants at the breast, and by Rouelle, to exist in that of herbivorous quadrupeds. These errors admit of very ready explanation in the circumstance that hippuric acid becomes converted into benzoic by the process of putrefaction, and hence if the urine examined by the above chemists had been kept for some time before analysis, benzoic acid would be of necessity generated. On account of the great readiness with which hippuric acid crystallizes, and its very insoluble character, it is a matter of surprise that it has never been previously detected in the urine of the human adult. Lehmann has indeed announced its presence in diabetic urine, but this was regarded as almost peculiar to the disease.

There cannot exist the slightest doubt of the accuracy of Liebig's statement of the presence of this acid, as it may be readily obtained by the process he has suggested. I find the following plan to be somewhat easier in execution than that recommended by the professor of Giessen.

About 20 ounces of urine are evaporated over a charcoal-chauffer or sand-bath to about an ounce. Nearly three drachms of strong hydrochloric acid are then added, and the mixture is boiled nearly to dryness. When cold, about two ounces of water are poured on the mass, and the whole well and repeatedly stirred. A brown solution is formed, and must be decanted from the insoluble residue, which consists chiefly of a mixture of hippuric and uric acids. Some of this deposit may be boiled in alcohol, and the filtered fluid allowed to evaporate in a glass capsule, when needles of hippuric acid will be left. Or a portion may be placed in a test-tube, digested with a little ether, and a few drops of the ethereal solution evaporated spontaneously in a watch-glass will leave thin and delicate needles of hippuric acid. So very readily does this acid crystallize, that from a drop or two of the alcoholic or ethereal solution, three or four delicate four-sided, exceedingly slender needle-like prisms, half an inch long, may be obtained. Sometimes these needles are not visible at first in a satisfactory manner, but after a few hours they increase in size and become beautifully distinct.

As hippuric acid, although infinitely more soluble than the uric, requires about 400 times its weight of cold water for solution, it cannot find its way into the urine in any quantity unless combined with a base, and this in the majority of instances appears to be soda, all the alcoholic hippurates being very soluble. It is now a well-recognised fact, that benzoic acid, when taken as a remedy either free or combined, is not, like the citric, tartaric, acetic, and other vegetable acids less rich in carbon, converted into carbonic acid, but uniting with a nitrogenised substance, is converted into hippuric acid. This substance was supposed to be lactate of urea, and thus the change was at once satisfactorily explained; but this hypothesis must be abandoned, if Liebig's opinion of the absence of lactic acid in urine be correct.

The proportion of hippuric acid existing in urine has not been ascertained; Liebig has supposed it to be equal in quantity to the uric. This has, however, not been the case in the experiments I have made; the utmost proportion obtained by myself never exceeded in quantity one-third the uric acid present. If hippuric acid be formed in the organism from the nitrogenised

* Lancet for June 1st and 8th, 1844.

elements of the food, we must expect it to be inconstant in quantity; as must, indeed, be every element of an excretion whose origin is traced immediately to a metamorphosis of the ingesta.

It may, however, be reasonably asked whether hippuric acid may not under certain circumstances perform another function, for its composition certainly suggests the probability of its being the vehicle by which carbon may under certain conditions be eliminated from the system. Although the essential function of the kidneys is unquestionably to filter off highly nitrogenised elements from the body, yet these organs can, as every case of inflammatory jaundice teaches, for a time compensate for the deficient functions of the liver, and eliminate bile from the blood; the urine hence becoming of a deep porter colour, and bitter. But in cases where the functions of those organs whose duty it is particularly to separate carbon from the blood (the liver and lungs), is merely partially interfered with or imperfectly performed, it would be very interesting to ascertain whether the kidneys compensate for these deficiencies, by eliminating carbon from the blood in the form of hippuric acid. An examination of the urine in cirrhosis of the liver, and in an extreme case of pulmonary empyema, would probably afford an answer to this interesting question*. A comparison between the per centage composition of dry hippuric acid, and the analysis of Dr. Kemp of the organic constituent of human bile, will shew the analogy between them, *quoad* the proportion of carbon:—

	Human Bile†.	*Hippuric Acid*‡.
Carbon . .	68·40	63·93
Nitrogen .	3·44	8·21
Hydrogen .	10·13	4·64
Oxygen . .	18·03	23·22
	100·	100·

2. *Tribasic phosphate of soda.* — Phosphoric acid in combination with lime, perhaps magnesia, soda, and, according to Berzelius, ammonia, has been long known as an important constituent of urine. From the analysis of the late Dr. Simon* nearly 2½ grains of phosphate of soda are present in 1000 grains of healthy urine of specific gravity of 1·012. The phosphate of soda of urine is identical with the well-known pharmaceutical salt, and consists of—

1 atom phosphoric acid	= 72	
2 atoms soda . . .	= 64	
1 atom basic water .	= 9	
	145	= the dry salt
24 atoms water of crystallization . .	216	
	361	= the crystallized salt.

On this hypothesis the atom of phosphoric acid, as generally assumed, is doubled, consisting of $P_2 O_5$ instead of $PO2\frac{1}{2}$. This salt becomes invested with peculiar importance from the functions assigned to it by Liebig of being the solvent for the uric (and hippuric) acid, as well as being the source of the natural acid reaction of urine. The number of opinions on the latter subject which have been published from time to time are well known; the acid reaction having been attributed in turn to uric, lactic, and carbonic acids, as well as to hydrochlorate and biphosphate of ammonia. Liebig has shewn that it is probably owing to an acid phosphate, as free phosphoric acid, produced at the temperature of the body by the action of uric (and hippuric) acid on the tribasic phosphate of soda. A solution of uric acid in water by the acid of that salt has been termed "artificial urine:" a name not very happily chosen, as such a solution bears no possible resemblance to urine save in that of containing in solution two of its ingredients. Liebig states that when 15 grains of uric and as much of hippuric acid were heated in a solution of 40 grains of dry phosphate of soda in a pound of water, the whole formed a clear acid fluid, and on cooling very slowly deposited half of its uric acid; "this sediment is of an analogous form to that deposited by natural urine after standing at rest for a long time."

It is well known that 8·1 grains of uric acid are on an average separated

* Since the above was written, a man, labouring under jaundice, came under my care at Guy's Hospital. He was an habitual drunkard, and had a contracted, probably a hob-nail, liver. The urine was pale porter-coloured, and, when concentrated by evaporation, yielded with hydrochloric acid a deposit rich in hippuric acid, being nearly entirely soluble in alcohol.

† Letter to Professor Liebig, London, 1844. page 37.

‡ Dumas, Traité de Chimie, Paris, 1835, page 219.

* Franz Simon, Medizinischen Chemie, Berlin, 1842, B. ii. S. 235.

from the blood by the kidneys in the course of 24 hours. This quantity is contained in about 40 ounces of water, or not quite 2500 times the weight of the acid, which from the accurate experiments of Dr. Prout, requires about 10,000 times its weight of water for solution: consequently it is impossible to suppose that uric acid can exist in urine in a free state unless the existence of unknown causes modifying its solubility be supposed. Some indeed, have, as I believe, on very insufficient data, attributed this function to the colouring matters of urine. The difficulty has been satisfactorily met long ago by Dr. Prout, who supposes uric acid to exist combined with ammonia, forming a salt which requires but 480 parts of water for solution. This opinion has been adopted by most observers who are at all acquainted with the phenomena presented by the urine, and so completely supported by a great mass of evidence, that there can, I think, be no difficulty in regarding the urate of ammonia as the normal state in which at least a part of the acid under consideration exists in healthy urine, and in the coloured amorphous deposits. It frequently happens, however, especially when an inflammatory diathesis exists, that uric acid is deposited in crystals more or less coloured, and differing essentially from the amorphous deposits in merely becoming opaque, and not dissolving in the urine when heated. These crystalline deposits have been explained by the presence of some acid, which, by combining with the ammonia, precipitates the uric acid. This precipitant has been generally regarded as lactic acid, or occasionally the sulphuric. As the presence of the former in urine must now be regarded as doubtful, and even if admitted hardly explains the phenomena alluded to, some other explanation of the reason why urine sometimes deposits free and at other times combined uric acid, or, as often occurs, both simultaneously, is required. This explanation is, I think, satisfactorily found in the peculiar action of uric acid on the phosphates, to which attention has been drawn by Professor Liebig.

Having prepared some perfectly pure uric acid, I made the following experiments.

A. Ten grains of crystallised phosphate of soda were dissolved in an ounce of hot distilled water, and to the alkaline solution thus formed, four grains of pure uric acid in minute tabular crystals were added: the whole soon dissolved, and was filtered through paper whilst hot. On cooling, a slight troubling occurred, and in twelve hours a copious crystalline deposit had taken place. This was collected and dried.

B. Under the microscope the deposited crystals were found to consist of transparent colourless prisms arranged in fasciculi and stellæ; exactly resembling a variety of crystalline deposit of not very frequent occurrence in urine, and remarkable for presenting a marked difference to the usual lozenge-form of uric acid crystals.

C. Boiled in water, these crystals did not dissolve; the only change detected by the microscope was the breaking up of most of the fasciculi, and the transparency of the crystals being lost.

D. By digestion in warm and strong hydrochloric acid, the crystals underwent no further change than when mere water was employed.

E. Ignited in a platinum spoon, after digestion in the acid (D), they burnt to a black ash with the odour peculiar to uric acid; by continuing the heat, a white fused bead was left, which dissolved in water, did not effervesce with acids, and consisted of phosphate of soda.

F. The fluid decanted from the crystalline deposit (A), was clear, and reddened litmus paper. A few drops of hydrochloric acid caused after a few minutes a deposit of uric acid in flat tables excavated at the sides, being the same form as the acid originally employed. By ignition, these crystals scarcely left a perceptible stain on the platinum spoon, and hence contained neither soda nor its phosphate.

G. Some healthy urine was mixed with hydrochloric acid, and after repeated agitation during 24 hours, was decanted from the precipitated uric acid. On examining the latter under the microscope, the crystals were found to present the form erroneously described as cylindric, being composed of very thick yellow lozenges, with the obtuse angles rounded off; so that when lying on their sides they so closely resemble cylinders that until allowed to roll over it was impossible to dispel the idea of such being their figure.

H. The acidulated urine filtered from the uric acid (G) was mixed with the fluid decanted from the crystalline deposit (A). An almost immediate

deposit occurred, which when examined by the microscope exactly resembled in figure the uric acid precipitated from urine (G), being in thick obtuse lozenges, and did not bear the slightest resemblance to the crystals deposited from the same fluid and hydrochloric acid (F), unmixed with the urine. Indeed, they only differed from the crystals (G), in being pale lemon, instead of orange-coloured.

These experiments prove that uric acid, without the presence of hippuric acid, will decompose phosphate of soda when aided by heat, producing an acid phosphate and basic urate of soda; the former causing the solution to redden litmus, and hence giving us a key to the long-contested question of the acidity of healthy urine. Professor Liebig has further shewn that on cooling, and by repose, half the uric acid is deposited, still leaving the supernatant fluid sufficiently acid to redden litmus paper. This deposit certainly, however, does not possess the properties of the common urinary sediment, as it is in large and well-defined crystals, and does not dissolve in boiling water, or change in hydrochloric acid, whereas the deposit in question is amorphous, readily dissolving in boiling water, and hydrochloric acid converts it into rhomboidal crystals of uric acid. The deposit from Liebig's "artificial urine" (A), does, however, so closely resemble the less frequent crystalline uric deposits, as to leave no doubt of the immediate cause producing them being identical.

The crystals spontaneously deposited (A), differ materially in crystalline form from those precipitated by hydrochloric acid (F), the former being in prisms and stellæ, the latter in thin tables excavated at the sides, a form which I have never seen in urinary deposits. The cause of this difference in crystalline form is readily explained by the spontaneously deposited crystals containing phosphate of soda in all probability chemically combined, as neither boiling water nor hydrochloric acid removed it (C, D, E). The influence of the colouring matter of urine in altering the crystalline form of uric acid is beautifully shown in the action of acidulated urine from which the uric acid had been separated (G), upon the solution of uric acid in the phosphate (H), the crystals neither being in prisms nor stellæ, but in thick obtuse lozenges, exactly resembling those thrown down from urine by the acid, and bearing no resemblance to those precipitated from the same solution, either spontaneously, or by pure hydrochloric acid.

The property announced by Liebig of the action of uric acid on phosphate of soda, and which, as Lipowitz* has shewn, is also exerted on alkaline acetates and lactates, thus appears to to lead to a satisfactory explanation of the acidity of healthy urine, and to the formation of crystalline uric acids. But to the ordinary amorphous deposits which disappear on heating the urine, and present the least amount of deviation from health, this explanation will not apply; Dr. Prout's opinion of the uric acid normally existing as urate of ammonia being most in consonance with observed facts, and sufficient to explain all the known phenomena presented by this class of deposits.

Is it possible, then, to explain the formation of urate of ammonia in the urine consistently with the opinion of Liebig regarding the source of its acid reaction? It is obvious that such cannot be done if a soda salt be regarded as the solvent; but if it be shown that a phosphate of ammonia possesses similar properties, the opinions of Drs. Prout and Liebig admit of complete reconciliation. Chemists are well acquainted with a compound, long known as microscomic salt, which crystallizes spontaneously from putrescent urine. This salt is, like phosphate of soda, tribasic, and differs from that compound only in one atom of soda being replaced by one of oxide of ammonium: it therefore consists of

1 atom	phosphoric acid .	72
1 „	soda	32
1 „	oxide ammonium.	26
1 „	basic water . . .	9
		139=dry salt.

This double phosphate, or at least its elements, exists in urine, and appears among its acknowledged constituents in most of the published analyses.

I made the following experiments to ascertain how far this salt exerted a solvent power over uric acid:—

I. Ten grains of the double phosphate in crystals were dissolved in an

* Simon, Bertrage zur Physiologischen Chemie, Berlin, 1843, B. i. S. 97.

ounce of hot water: the solution exerted an alkaline reaction. Four grains of pure uric acid, in tabular crystals, were then added, and the mixture heated. Part only of the acid appeared to dissolve; the undissolved part evidently underwent some change, becoming snow-white and denser, the supernatant fluid losing its alkaline reaction. On cooling, it deposited urate of ammonia in microscopic needles.

K. The white undissolved portion (I) was placed under the microscope: no trace of tables of uric acid could be detected, the whole being changed into minute delicate needles of urate of ammonia. These readily dissolved in hot water, and were deposited in part on cooling.

L. The fluid filtered from the deposit (I) was neutral to test paper; on the addition of hydrochloric acid, it slowly deposited tabular crystals of uric acid. By long repose a very few prismatic crystals of the same substances were deposited without the addition of any precipitating acid.

M. The fluid separated from the deposited urate of ammonia dissolved an additional portion of uric acid when more was stirred in, and heat applied. The solution was perfectly clear, and acid to test-paper. On cooling, it deposited an abundance of acicular urate of ammonia, and after long repose also let fall prismatic crystals of uric acid.

These experiments appear to me to explain in a most satisfactory manner the phenomena presented by the urine so far as uric deposits are concerned. Uric acid, agreeably to Dr. Prout's view, exists chiefly combined with ammonia, which base I believe it obtains from the triple salt of soda and ammonia; and it is this portion which is deposited in an amorphous form by cooling the urine, or evaporating it in vacuo. Another portion of the acid decomposes the soda element of the double salt, agreeably to Liebig's opinion, and is deposited, in combination with a little phosphate of soda, in crystals by very long repose, even in closed vessels; or much sooner when an excess of the acid is separated from the blood by the kidneys. That urate of ammonia is first formed in the greatest abundance by the action of uric acid on the triple salt is shown by experiment (I), and after the deposition of this the residual fluid possesses the property of dissolving more acid, rendering the solution acid to test-paper. Thus it is probable that when the triple salt is acted on by uric acid, its ammoniacal element is first partially decomposed, and on the addition of more uric acid its soda element partly yields; in both cases a super-phosphate is formed capable of giving to urine its natural acidity.

From this reasoning we should expect that if the proportion of uric acid present in the urine is within certain limits, it would constitute only an amorphous sediment of urate of ammonia, but that when found in large excess, as when a calculous diathesis exists, we should expect it to be deposited in crystals, and nearly in a pure state. The same theory also readily explains the very frequent simultaneous occurrence of amorphous and crystalline uric deposits.

There is one very essential difference between the mutual behaviour of phosphate of soda and uric acid, and of the same acid with phosphate of ammonia. The former salt, as stated by Liebig, is decomposed by uric acid at a temperature of about 100°, urate of soda being formed, and an acid phosphate left in solution. On cooling, this acid decomposes the urate of soda, setting free uric acid; or, in other words, uric acid decomposes phosphate of soda by heat, but in the cold phosphoric acid decomposes urate of soda. It is obvious, however, that this decomposition is but partial, otherwise Liebig's theory would fail to explain the acidity of healthy urine. Phosphate of ammonia, on the other hand, as we have seen, acts very differently (I); it is (in the state it exists in the microscomic salt) decomposed in part by uric acid when heated, and urate of ammonia is formed, on which salt the acid phosphate generated does not act by cooling. Probably the insolubility of the urate of ammonia by removing it out of the sphere of action of the acid salt, may partly explain this discrepancy between the action of uric acid on the ammoniacal and soda phosphates.

One important practical hint may be drawn from these observations; viz. the probably successful treatment of uric acid gravel by the administration of phosphate of soda. If sufficiently diluted, this salt is sure to enter th circulation and be excreted by the ki

neys, thus furnishing to the urine an energetic solvent of uric acid. It is true that this indication can be generally fulfilled by the pure alkalies and their carbonates, but they too often exert the injurious effect of materially interfering with the digestive organs, and thus directly affecting the integrity of those functions most intimately connected with the production of the morbid deposit. The phosphate of soda may be given in doses of ℈j. to ʒss. thrice a day without any other apparent effect except that of slightly relaxing the bowels, and the urine becomes charged with the salt. We may thus hope to retain uric acid in solution, and gain time for the employment of those remedies which are best adapted for the treatment of the uric diathesis. For it must never be forgotten that in merely giving a remedy to hold an urinary deposit dissolved, we are merely treating an effect, and not a cause.

Before concluding these remarks, I would venture to correct one statement of Professor Liebig, which is certainly erroneous; viz., that alcohol has never been detected in the urine. In the elaborate essay of a most talented and experienced physician and chemist, Dr. Percy, of Birmingham*, an experiment is related in which a bitch was poisoned by alcohol, and traces of it were, after death, detected in the brain, blood, urine, and bile. The tests employed were the inflammability of the distilled fluid, and its power of dissolving camphor; and hence no doubt can exist as to the real presence of alcohol in the substances examined.

Myddleton Square, Aug. 6, 1844.

ON THE TRANSFORMATION OF PUS CELLS INTO A MUCOUS OR FIBROUS TISSUE.

By William Addison, F.L.S.

[Continued from p. 652.]

Experiment 3.—Half a wine-glassful of pus was well mingled with an equal quantity of Brandish's liquor potassæ. The plastic matter resulting could be drawn out into strings a yard long. A delicate thermometer was immersed in the mixture, but no rise of temperature could be detected. Sulphuric acid, previously diluted with six or eight times its bulk of water, was now added to the plastic matter, and gradually, with considerable effervescence, it became quite white, resembling coagulated white of egg*. At the end of two hours, there was a very considerable smell of sulphuretted hydrogen issuing from the materials which had formed themselves into a solid fibro-albuminous mass. This solid mass was now thrown into clear pump water, and on tearing it to pieces with two needles, I found, it resembled in all its visible characters, many of the morbid products found in the living structure; thus portions of it were like the interior of *a vomica*, especially several cavities which had been formed in its interior by the expansion of the gaseous bubbles; and many other portions resembled the pseudo-membranous layers often found lining purulent cavities. Several small shreds were examined by the microscope, and they exhibited a very copious fibrous structure; myriads of minute molecules were squeezed out from the interstices of the fibres, by pressure between the slips of glass, and these exhibited a singularly active molecular action. In some of the pieces or shreds thus examined, it was evident that the alkali had failed to rupture all the cells, so that numerous entire and more or less perfect pus globules were found incorporated among the fibres. *The fibrous tissue here formed by my manipulations could not by any visible or microscopical character be distinguished from that formed by the fibrillation of the buffy layer of the blood, or by the process of nutrition in the living body.*

Exp. 4.—A quantity of the white fibro-albuminous matter, resulting from the last experiment, was placed (after maceration for some time in water) in a glass capsule, and equal parts of liquor potassæ and water, previously mixed, were poured upon it; heat was applied, and in a few minutes the whole was again dissolved, forming a transparent solution,—*but now this transparent solution had not the slightest trace of any plasticity whatever.*

Exp. 5.—Twenty drops of pus were mingled with *seven drams* of water,

* Prize Essay on the Presence of Aicohol in the Brain. London, 1839, p. 23.

* I may here observe, that the alkali effervesced slightly on adding to it any diluted acid.

(about three parts of a wine-glassful); they were well stirred together: the mixture was homogeneous, and exactly resembled a very poor milk and water; there was no appearance of flaky matter whatever. Ten drops of liquor potassæ were then stirred in it, and in a few minutes copious flakes appeared; these flakes were found by the microscope to consist of aggregated cells, more or less altered, and connected together by the fibres or plastic material which had resulted from the bursting of some of the cells. Ten drops more of the liquor potassæ were added, and the whole well stirred together; the mixed materials now became quite transparent, *and they had all the glairy physical characters of white of-egg.* On examining a small portion of this white-of-egg matter, I found in it numerous disintegrated cells; their diameter was much enlarged, and they were distinguished more by little circular masses of molecules, than by any thing like entire cells. Water was now placed in a shallow glass capsule; the plastic matter was emptied from the wine-glass into it, and heat applied. The plastic matter did not mix with the water, but remained distinct, just as white-of-egg would have done. The mixture was boiled for a few minutes, and stirred, so that the animal matter should not burn. *There was no visible alteration, except the production of a little froth; there was no coagulation from the heat.* While still warm, the transparent white-of-egg like matter was thrown into dilute acetic acid, and *the formation, or rather the appearance of a distinct and coherent fibrous membrane on the outside of the mass, protecting the interior from the access of the acid, was as interesting as it was novel and remarkable.*

Exp. 6.—Equal parts of pus and liquor potassæ were well mingled together in a wine-glass; they formed as before a transparent and exceedingly plastic compound—mucus or tissue. A large glass capsule was provided, holding a quantity of dilute acetic acid; also two large needles with handles, and a pair of scissars. Various portions of the plastic matter taken up on the point of one of the needles from the wine-glass, were cut off with the scissars; they were then placed in the dilute acid, and with the needles I could draw them into a variety of shapes and forms, which soon became *set*, by the formation of an opaque white fibrous membrane, from the action of the acid, and they resembled in external appearance various structures and membranes hitherto, I believe, not known to be formable by such methods.

In all these experiments, I attribute the plasticity of the transparent material to the development of a real fibrous structure, and *the event* immediately antecedent, or the cause of this fibrous structure, is the rupture of the pus-cells: the acid renders this structure opaque and visible, so that it may be seen by the naked eye, but it rather tends to destroy than to increase the strength or tenacity of the fibres*.

There is another experiment connected with this investigation which I shall now proceed to relate; it is, if possible, more interesting and remarkable than those already narrated, and it harmonizes completely with my *Theory of Nutrition.* For if the walls of capillaries undergo the changes I suppose, then their elements must be found in the secretions.

Exp. 7.—A watch-glass was half filled with *dilute acetic acid,* and two, three, or four drops of clear saliva, free from any air-bubbles, were allowed to fall gently into it: on carefully looking at these drops of saliva, they were found not to have mingled with the acid fluid, but each drop preserved its own figure, somewhat like oil on water, and as small portions of the plastic matter from the pus-cells would have done, there was also a faint opacity observable about each drop. A needle was inserted into this saliva, and on stirring it slightly, a small quantity of white matter adhered to the point, which I immediately recognized from its behaviour to be fibrous, and on subjecting it to an examination by the microscope (linear power 300), it was found to be an exceedingly perfect and complete specimen of fibrous structure; the fibres were each of them distinct and well-defined, forming an intricate tissue, and distributed upon the fibres, and in the structure were numerous minute molecules, such as are seen in the fibrillated net-work of the liquor sanguinis. Moreover, in some of the specimens I examined, I saw several of the mucous cells of the saliva, and a great many epithelial scales, attached to, (the former

* It is essential to the full success of these experiments that the pus be thick, white, opaque, and *healthy.*

altered in form), and incorporated with or among the fibres. The fibrous structure or tissue seen in this experiment, (which may be varied in many ways) is the most beautiful and perfect of any I have yet seen. Now the saliva is by all agreed to be a secretion formed by cells—it varies considerably in plasticity; and this experiment indicates *that every drop of saliva contains a form of fibrous structure, which may be made visible by dilute acetic acid.*

But it may be said that it was well known that acids coagulated the saliva. Yes, but a great distinction has ever been insisted on between *fibrin* and *albumen.* This distinction is very important, and I have endeavoured to observe it, by saying that *fibrin fibrillates* in assuming the visible form, *albumen coagulates.* Now, my experiments shew that mucus, saliva, and the plastic element of pus-cells, *fibrillate* in the same way that the plastic element of blood-cells does in the formation of the fibrous structures of the living body.

Finally, as a last experiment relating to this part of my subject, I may mention, that if two, three, or four drops of liquor potassæ be added to half an ounce of pure water, and then two, three, or four drops of pus be added, and well stirred, the compound has somewhat of the same degree of plasticity as saliva, and the same degree of transparency. If this be dropped into dilute acetic acid, the phenomena are similar to those observable when saliva is treated with the acid.

The conclusions I draw from these experiments, with those already announced, I am quite aware when enunciated, *in the concentrated form of a principle,* involve such consequences, that every energy ought to be exerted to test it ere it be received for use; from this ordeal the *new facts* will, I am well assured, come out untouched; therefore, vague doctrines, baseless theories, loose opinions, and hasty inferences, wherever originating, must give place to *the new forms of mental apprehension* appropriate to *their* interpretation.—I remain, sir,

Your obedient servant,

WILLIAM ADDISON.

Great Malvern, August 9, 1844.

* The strength of the acetic acid does not appear material to the success of this experiment. I found the strong acid do equally well.

RESEARCHES
CONCERNING THE
IMPORTANCE OF BILE IN THE LIVING ANIMAL ORGANISM.

By PROFESSOR SCHWANN.

(Müller's Archiv. 1844, No. 2*).*

AND ON THE
FORMATION OF FAT,

By GEO. KEMP, M.D. Cantab.

WE are indebted to Professor Schwann for an account of some interesting experiments, instituted for the purpose of ascertaining whether the bile is really essential to life. These were so conducted as to allow that fluid to flow out of the body without ever getting into the bowel. The means employed was ligature of the ductus choledochus.

The author contends that the experiments of Brodie, Tiedemann, and Gmelin, Leuret and Lassaigne, are of no physiological value as regards the present inquiry; inasmuch as if the ductus choledochus be simply tied, not only is ingress of bile into the bowel prevented, but the secretion is likewise stopped. Now the secretion may serve a double end in the animal economy; first, to remove certain matters from the blood; second, to elaborate a fluid destined, like the gastric juice, to exercise some peculiar action upon the nutriment. That the bile contributes to effect a change in the composition of the blood cannot be denied. Accordingly, if the depurative process performed by the liver be arrested, death must follow as surely as after ligature of the ureters.

To obviate the above difficulty, the author, while he applied the ligature, formed at the same time a fistula of the gall-bladder, having its external opening in the abdominal integument. Under such circumstances, if death ensued, it must be from absence of bile within the bowel, for the secretion is permitted to go on without interruption: those cases, of course, being excepted where a fatal termination has been the immediate result of the operation.

There are various ways of ascertaining whether death has been so caused. The most direct is cadaveric inspection. We may thus determine whether it is to be ascribed to inflammation of the peritoneum in consequence of the opening made into its cavity, or to inflammation of the liver through in-

flammatory action commencing at the ductus choledochus, and thence spreading into the parenchyma of the viscus. The latter, indeed, is apparent during life by the icteric signs. The second means of knowing if death depends upon the wound is the period at which it ensues, and the condition of the wound at that period. The third is by numerical comparison of the successful and unsuccessful cases. On the whole, when properly conducted, the operation is not more hazardous than the Cæsarean section, and, as our author quaintly remarks, dogs can bear much.

It is important to prevent as much as possible the re-establishment of the ductus choledochus, or any escape of bile into the abdominal cavity, as the latter would inevitably give rise to violent peritonitis.

The dogs submitted to operation, 20 in number, were carefully weighed daily, or every few days afterwards. This affords another indication of the amount of the animal's sufferings; for the weight alters very little the three first days, when the operation has been skilfully and successfully performed. The influence of the absence of bile is not perceptible until a later period. When, however, the dog loses weight considerably soon after the date of the operation, it is a proof of serious damage; and death generally follows, though not always, from direct injury.

The dogs are apt to lap the bile as it flows from the fistulous orifice, and this finding its way into the stomach, might be supposed to exert some influence either in promoting or retarding digestion. Purkinje and Pappenheim remarked that artificial digestion was impeded by the presence of bile. To counteract, therefore, any risk of mischief from this source, the author attached a piece of sponge to the orifice by means of caoutchouc, so as to imbibe all the fluid discharged. This precaution, however, did not seem to produce any difference.

Subjoined is a tabular statement of the experiments illustrative of the essential importance of the bile.

Dog.	Age.	Result of Operation.
No. 1	Adult	Death 17 days after the operation from want of bile. Continued diminution of weight from the operation until death.
No. 2	Adult	Cure through reproduction of the ductus choledochus. At first, diminution; then increase of weight.
No. 3	Adult	Death 3 days after the operation from peritonitis and jaundice.
No. 4	Adult	Death 7 days after the operation from peritonitis.
No. 5	Adult	Death 80 days after the operation from privation of bile. At first, diminution; then increase; finally, again diminution up to the period of dissolution.
No. 6	Young	Death 7 days after the operation from want of bile.
No. 7	Adult	Death 5 days after the operation from peritonitis.
No. 8	Adult	Death 2 days after the operation from peritonitis.
No. 9	Very young	Death 2 days after the operation from peritonitis.
Rabbit	Adult	Death the day after the operation.
No. 11	Adult	Death 25 days after the operation from want of bile. Continned diminution of weight.
No. 12	Young	Cure through reproduction of the ductus choledochus. At first, diminution; then increase of weight.
No. 13	Adult	Death 6 days after the operation from peritonitis and jaundice.
No. 14	Adult	Death 2 days after the operation from peritonitis.
No. 15	Adult	Death 5 days after the operation from peritonitis.
No. 16	Adult	Death 7 days after the operation from peritonitis.
No. 17	Young	Death 64 days after the operation from want of bile. At first, diminution, then increase, and eventually diminution of weight till death.
No. 18	Adult	Death 13 days after the operation from want of bile. Continued diminution of weight.

For perspicuity's sake, the above may be classed under three heads:—

1st. Experiments in which healing took place.

2d. Those where death happened, or might have happened, through the operation.

3d. Those where death occurred independently of the operation.

To the first head two only can be

referred; namely, Nos. 2 and 5. In both of these it was seen, upon cadaveric examination, that reproduction of the biliary conduit had supervened, notwithstanding a considerable portion of the ductus choledochus had been snipped away. The dogs lost weight during the first six or ten days, and then regained it progressively until they weighed as much as formerly. The continuity was probably completely restored by the sixth or tenth day from the date of operation. In each instance the fistula of the gall-bladder closed spontaneously.

To the second head may be referred Nos. 3, 4, 7, 8, 9, 10, 13, 14, 15, 16; in all, 10 dogs. The wole of them died within seven days, and uniformly lost weight during the three first days after the operation.

To the third head belong Nos. 1, 5, 6, 11, 17, 18; that is to say, 6 dogs. In their case death can be ascribed only to privation of bile. They all preserved their primitive weight very nearly during the first three days after the operation, and then began to lose flesh. In experiments 6, 18, 1, and 11, emaciation advanced steadily till death, which occurred 7, 13, 17, and 25 days respectively after the operation. In experiments 17 and 5, death ensued at an interval of 64 and 80 days; and there was this peculiarity, that the two dogs, after losing weight in the first instance, recovered it again, and subsequently wasted away. In all the above cases death was preceded by symptoms of inanition, more or less marked in proportion to the remoteness of the period of dissolution.

The following important practical inferences may be drawn from these experiments. Out of 18 dogs whose ductus choledochus was tied, and fistula of the gall-bladder at the same time ormed, two alone survived. In both, when killed, the ductus choledochus was found re-established. Of the other 16, 10 died in consequence of the operation. In the remaining 6 death could not be assigned to that cause, but only to absence of bile in the intestinal tube. It may be therefore concluded that the bile is of vital import; that the liver does not merely serve, through the biliary secretion, to carry off certain effete matters from the blood, but that it at the same time elaborates a fluid essential to the animal economy. This is borne out, not only by a consideration of the six cases where the animals died without any other appreciable cause, but likewise of those in which the duct became restored and the dogs lived. There, the emaciation continued up to a certain period, no doubt that of the re-establishment of the ductus choledochus; in one (No. 12) symptoms of marasmus supervened exactly resembling those in dogs dying from want of bile, but which completely disappeared on the integrity of the conduit being regained. The ten cases in which another cause of death was discovered cannot be received in evidence, as it is probable that the privation of bile partly contributed to shorten life. This must be taken into account in every instance where an animal outlives the operation three days, as the effects of absence of bile are already appreciable before that date; if wasting occur earlier, it is probably the direct effect of the operation.

Death takes place even when the dogs lap and swallow the effluent bile; it cannot, therefore, be reckoned a substitute for that which, in the natural course of things, passes into the duodenum. On the other hand, the ingested bile did not seem to impair digestion.

Young dogs die as well as old ones, and probably sooner; thus, No. 6 died in seven days; and No. 12, although eventually saved by reproduction of the biliary canal, manifested by the tenth day those marked symptoms of faulty nutrition which do not usually show themselves till a later period.

Death takes place amid symptoms of inanition or defective assimilation,—emaciation, muscular weakness, tottering gait, falling out of the hair; and these are the more prominent the longer life is prolonged after the operation.

There is considerable variation as to the period at which animals die from want of bile; thus, one young dog died within seven days, another not before two months and a half had elapsed. The dog of experiment No. 17 survived the operation more than sixty-four days; and here the biliary channel was not found re-established on examination after death. It would appear, as a general rule, that adult dogs perish from want of bile in from two to three weeks after operation. Now it is known that dogs can live for nearly a

month without any kind of nourishment (Müller's Physiology, Bd. I., p. 477).

With regard to experiments Nos. 5 and 17, it may be presumed that the dogs in the first instance became emaciated from want of bile, but again gained flesh upon restoration of the ductus choledochus.

In order to account for those cases in which after the animals had apparently recovered, there was a renewal of the emaciation, and death, it may be assumed that at some advanced period, in consequence of local injury by a blow or leap, the newly-formed texture has been ruptured, leading to inflammatory exudation within, and closure of, the previously pervious canal, whereby the supply of bile has been cut off.

The following is the author's summary of results:—

1. The bile is not a mere excrementitious matter, but is, after being secreted, of vital necessity.

2. Bile is alike indispensable to young and old animals; indeed, the former seem to bear its want less than the latter.

3. When the bile does not get into the bowel, its absence is generally perceptible in dogs by diminution of weight about the third day.

4. When the bile is prevented from reaching the bowel, adult dogs usually die after two or three weeks, sometimes earlier.

5. Death is preceded, as above stated, by signs of deficient nourishment, great wasting, muscular debility, falling out of the hair, together with slight convulsions during the agony.

6. The bile which naturally flows into the duodenum cannot be replaced by that which the animals lap and take into the stomach.

7. The bile so swallowed does not seem to interfere with the process of digestion.

The author proposes to extend his experiments, with the view of ascertaining whether the efficacy of the bile depends upon its being a solvent of certain articles of nutriment.

In connexion with this subject we would briefly notice some ingenious speculations promulgated by Dr. Kemp, touching the formation of fat*. He observes that the theory of Liebig, which maintains that animal fat is formed from the assimilation of the non-nitrogenized ingredients of the food, of which *starch* may be taken as the type, justly obtains the preference. It is, however, involved in obscurity: for, if we compare the formula of starch C_{12} H_{10} O_{10} with the formula C_{12} H_{10} O, which he gives as a very correct empirical expression of fat in general, we find an excess of oxygen, bearing to the carbon the proportion of 3 : 4, unaccounted for; nor can we consider it sufficient to state that this large quantity of oxygen is converted into C O_2 and H O. In the healthy performance of the digestive functions but a very small relative proportion of carbonic acid is found in the stomach or small intestines; and, if the starch of the food is converted into fat, the excess of oxygen must enter into some state of combination up to the present time unexplained.

If it be granted that the whole of the assimilated portion of the food is conveyed through the *thoracic duct* into the system, it is clear that a careful examination of the chyle will furnish us with all the materials necessary for connecting the phenomena of digestion, assimilation, and reproduction. This fluid must contain in itself all that is necessary for the fresh deposit, whether of tissues or fat. Such an examination will be free from all the risks of analogical reasoning; it will be merely expressive of the condition of the whole, as representing the sum of its parts.

We are, fortunately, in possession of the ultimate analysis of the chyle, by Marcet and Macaire, which proves that the elements of this fluid are so proportioned as to represent proteine in combination with another body capable of forming fats, and legitimately expressed by an empirical formula combining the elements of starch and *bile*, whilst it seems most satisfactorily to establish the great importance of that fluid in the formation of fat: without its presence or efficient agency the starch might become sugar, as in diabetes, or split into the binary forms, carbonic oxide, carbonic acid, or carburetted hydrogen, as in some cases of dyspepsia, or, more particularly, in hoven cattle, but the natural organic change cannot occur.

* Theory of the Formation of Fat, by George Kemp, M.D., &c., p. 3.

The author then proceeds to demonstrate by a series of chemical equations, that if we deduct from the formula expressive of the analysis of chyle by Marcet and Macaire, the formula for proteine as stated by Mulder, we obtain a formula C_{18} H_{12} O_9 representative of the non-introgenized portion of the chyle; and that by the addition of two equivalents of starch to the compound representing the non-nitrogenized portion of graminivorous bile, we arrive at the same result. Hence he concludes:

"1. That, in graminivorous animals, the bile, during the digestive operation, is deprived of its nitrogen in the form of ammonia, absorbs oxygen, enters into combination with the amylaceous parts of the food, and is thus absorbed, together with the proteine compounds, in a form capable of producing all the solids and fluids of the animal body.

2. That the object of the amylaceous portion of the food is not immediately to form fat, but, by combination with the bile, to produce a compound containing the elements of fat with an excess of oxygen for cartilage, gelatine, and other allied structures which may be represented by proteine plus oxygen.

The relation between the non-nitrogenized portion of the bile of graminivorous animals and the volatile fatty acids in butter, will be immediately recognized; and the application of the above data to the probable mode of formation of milk affords some very excellent analogies which cannot be traced in this brief sketch.

A difficulty presents itself with regard to carnivorous animals; they "consume no starch, and it is evident that some element of food containing more oxygen than proteine must be present in order to form the non-azotised portion of the chyle." But as their food consists, in addition to muscular fibre, of large quantities of tendons and epiphyses of bones, or in other words, of gelatine and cartilage, the author at once surmounts the obstacle, by adding the elements of the non-azotised portion of leopard's bile to those of chondrine.

"Thus, in the combination of chondrine with the bile in carnivora, we obtain the same results as in graminivora, by the combination of their bile with amylaceous food; and the analogy of the contents of the thoracic duct in animals differing so widely in habits is thus accounted for.

It will also be seen that the leopard is furnished with milk for its young, by the combination of cartilage with its bile, in the same manner as the cow obtains it by the addition of the secretion from the liver to the starch contained in its food.

We may observe in conclusion, that if Dr. Kemp's plausible theory be substantiated, it will enable us to account for the emaciation and decline of animals deprived of bile, as exemplified in the foregoing experiments of Professor Schwann, and also for the large expenditure of bile in the human body. It is at all events impossible not to be struck with these most ingenious views of Dr. Kemp, or to fail to perceive in the distance conclusions that may become of the highest importance both in physiology and pathology.

ON THE

PATHOLOGY AND TREATMENT OF OVARIAN DISEASES;

WITH CASES.

By Dr. Samuel J. Jeaffreson,
Physician to the Chelsea, Brompton, and Belgrave Dispensary, &c.

(For the London Medical Gazette.)

[Continued from p. 650.]

The forms of ovarian disease which most frequently give rise to symptoms connected with pressure upon the rectum or bladder in their earlier stages, and whilst still embedded in the pelvis, are those which are entirely or in the main solid. The first appearance of the tumor above the brim of the pelvis is usually observed on the side of the ovary affected; this may, perhaps, be invariably the case; but certain it is that such fact is frequently overlooked by the patient, especially when there has been no pain or local inconvenience, which has drawn her attention to the disease at this particular stage of its growth. With its increase of bulk, the tumor, whether solid or fluid, at last occupies so large a portion of the abdominal cavity as to prove a source of great and often serious inconvenience. The bowels are commonly rendered sluggish from the pressure made upon them, the stomach irritable, and the digestion impaired; and latterly the

thoracic viscera become so straightened and inconvenienced by the pressure from below upwards, that dyspnœa and orthopnœa supervene frequently to an alarming extent; and the circulation may be embarrassed not merely in consequence of the pressure upon the lungs, but also on the heart and large vessels. Independently of its other mechanical inconveniences, the great weight of the tumor very much exhausts the sufferer, which exhaustion, added to an impaired digestion, and the great demands of this morbid growth upon the system, frequently induces extreme emaciation.

In its earlier stages, the tumor, especially if solid, may, by pressure on the iliac vessels and nerves of one side, produce numbness, pain, cramps, œdema, or other affections of the leg of that side. At all periods of its growth, the tumor, acting as a foreign body on the parts with which it is in contact, may induce inflammation of these parts; the peritoneum being the structure most exposed is of course the part most frequently subjected to inflammation from this cause. The result of such inflammatory action is frequently to induce adhesions between the outer walls of the tumor and the parts with which it is in contact, through the intervention of the coagulable lymph which is thus deposited. It has been suggested by some that such process of inflammation tends rather to control the growth of the ovarian tumor, by binding it down, and Dr. Ramsbotham, in his Lectures on Midwifery, has asserted this opinion, and suggested it as the probable rationale of a means of cure presently to be mentioned, which was first recommended by Dr. Hamilton, of Edinburgh. I am not myself inclined to think that such adhesions in any way control the growth of the disease: the constitutional tendency to inflammation, and other circumstances, being, however, equal, I believe the more solid the tumor the more likely is it to induce inflammation and adhesions, as constituting a greater source of mechanical inconvenience and irritation; and as the more solid tumors are for the most part slower in their growth, and much later, if ever, attain the size of the more fluid ones, this circumstance may have given rise to such an opinion.

By irritation or inflammation of the peritoneum probably, in its earlier stages, and later by such causes combined with pressure on the mesenteric or portal veins, liver, &c., this disease frequently induces more or less ascitic effusion.

Not only may the lining membrane of the diseased mass become inflamed, but the solid tumor itself*. I have already stated my belief that inflammation, or a process short of inflammation, in many instances induces softening, even to fluidity, of the hard and solid portions of the ovarian tumor. In Case No. V. I firmly believe this process to have been the means of cure; but then, as is amply seen in that case, the cure is a desperate one, and attended with the utmost risk to life.

So far, then, both as regards the solid and fluid forms of ovarian disease, their progress has been marked by phenomena chiefly due to their mechanical inconvenience and bulk; and even up to the destruction of life itself they will be found to destroy by single or combined influences due to such causes. Wear and tear, exhaustion, inflammation of vital organs, impeded respiration and circulation, starvation itself—owing to an irritable state of stomach, unable to receive, even could it assimilate, food. To these circumstances may be added the very palpable ones of annihilation of the functions of the organs themselves whose structure is destroyed, and therefore barenness; and if the disease occur early in life, and affect both ovaries, derangement and ultimate arrest of the menstrual secretion, with the mischief thus entailed upon the whole economy. A subject, however, of great interest, and, in the present day, of great importance, remains to be considered; namely, whether, in the progress of the affection, other and perhaps vital organs are liable to take on a similar form of mor-

* I should be sorry to lay claim to originality for these opinions, which were, I believe, first promulgated by one of my own talented teachers, Dr. Seymour. I may, however, be allowed to state that I arrived at the same opinions from personal observation, and without knowing that they had been entertained by Dr. Seymour or others. It would, perhaps, be well if we were not too eager in our endeavours to be original; for my own part, I consider it no useless or idle matter, by careful observation to confirm what is sound, and to eradicate what is false, in the opinions of those who have gone before us. Many sound practical doctrines have, for want of such confirmation, laid dormant; and many a brilliant but unsound doctrine has for want of wholesome investigation and correction spread its deleterious influence over the opinions and actions of thousands of practitioners.

bid growth to that which has been primarily deposited in the ovaria. It need scarcely be remarked that the decision of this question is of the utmost importance in connection with a subject presently to be treated of; namely, the propriety of removing the diseased ovaria.

That in many instances of post-mortem examination, no similar form of disease should have been observed in other organs, is hardly sufficient evidence upon which to decide this important question; and the more so, perhaps, in that the great bulk of our evidence in all matters of morbid anatomy is derived from our great hospitals. Now comparatively few persons die in our hospitals from ovarian disease in the natural course of things. Some are admitted who, having been retained for a certain length of time, and experienced relief, are discharged to make room for more urgent cases, and lost sight of; others are tapped, and, if relieved, are speedily discharged; but should they die from inflammation, or other cause connected with the tapping, they are examined. In a large portion of these cases the form of the disease is entirely of the fluid character; a form of the disease differing in many essential particulars, and, as I believe, often in its origin (as stated above) from the solid tumor, and therefore out of the field of comparison; or should the tumor have been partially solid and partially fluid, if death has been prematurely induced by accidental cause, it is no more fair to say that the disease is one which is in its nature limited to the ovaria because it is not found elsewhere, than it would be in the case of a post-mortem examination instituted but a few days or weeks after amputation of a scrofulous joint or scirrhous breast, to say, "Oh, the disease is local, because we find no traces of the affection in other organs!" What is it that has rendered the modern surgeon so cautious in removing scrofulous joints and carcinomatous tumors? Not the co-existence of similar forms of disease in other parts at the period of operating, in the discovery of whose presence or absence modern improvements in diagnosis afford him increased facility and certainty, but in the observation that after their removal other and vital organs become but too frequently similarly affected. The cases, then, upon the post-mortem examinations of which this question of the liability of other organs to become similarly affected would be most certainly decided, are those of long continuance and slow progress to a fatal termination —the very cases, in fact, that are the most rarely witnessed in hospital practice, whence our most extensive researches in morbid anatomy are derived.

It is difficult to bring the mind to regard the large mass of diseased growth witnessed in ovarian disease as entirely a local affection; one is more naturally disposed to look upon it, from analogy, as a disease of constitutional or systemic origin, located in this particular part by some especial determining cause; and if this view of the subject be true, why may not other organs become affected during the progress of the disease, or after its removal by surgical operation? It is, indeed, by no means uncommon to find other organs affected by somewhat similar organic changes, in cases of ovarian tumor. In one out of the two fatal cases cited, the ovary was not the only structure diseased, a great portion of the stomach being found to be involved in a mass of diseased growth, in every respect resembling that of the ovaries themselves. In the other fatal case, the patient was of a strumous diathesis; and portions of the softened structure of the ovary presented those peculiar appearances which are observed in connection with the softening of ordinary strumous glands. In one of the cases, not as yet fatal (the first), the thyroid gland is reported to be greatly enlarged, partially solid, and partially fluid.

The near resemblance of the solid portions of many ovarian tumors to ordinary carcinomatous growths, as respects their appearance and structure, as also the connection of some forms of this disease with a strumous diathesis, as stated by Dr. Copland, have been already adverted to.

Still, it may be said, "if ovarian disease be of constitutional origin, is it not remarkable that, in so many instances, other structures should be found exempt from a similar form of disease; and that the affection should often exist for so long a period without destroying the life of the sufferer?"

To the former objection it may be

answered, "Have we sufficient evidence of the exemption of other parts from similar forms of disease, in the cases of ovarian tumors of long standing?" If such exemption, comparatively speaking, be really true, may not the peculiar nature and position of these organs account in some measure for the fact? Of the purer forms of malignant disease, such as carcinoma, fungus hæmatodes, melanosis, &c., it is worthy of remark, though not readily explained, that diseases like these, coming no doubt out of the whole system, out of the blood in fact, are not often promiscuously deposited in this or that part, as chance may direct them; the absorbent system, but chiefly the absorbent glands, seem to be the parts most prone to promote the fatal termination of these affections, by taking upon themselves a similar form of growth. Is carcinoma or fungus hæmatodes established in the mamma—the lungs, liver, or other organs, may ultimately become the seat of similar disease; but how rarely does this occur till long after the absorbent glands of the axilla, neck, and other adjoining parts, have become affected: whereas, when the internal viscera become first affected, it frequently happens that the absorbent glands are not found to have taken on a similar form of disease, and death has occurred from the organic lesion of a part whose function was of vital import. It would appear as if in all forms of malignant disease the local affection was due to deposits from the blood; whereas the matter thus deposited, if secondarily affecting the system by reabsorption, was reabsorbed not directly into the current of the circulation, as indubitably happens of some poisonous substances, but through the agency of the absorbent vessels and glands.

Now this primary deposit may take place in one part only of the system in the first instance, or in several parts simultaneously; and this is, in fact, nothing more than happens of other depositions not of malignant character—take gout and rheumatism, for example—in which one joint may be affected alone, or several simultaneously. In the case of scrofula, again, a disease but little short of malignant, we find the deposition peculiar to this disease sometimes affecting but one portion only of the body, at others very many parts simultaneously.

From their position, the ovaries are of all organs, perhaps, those the structural changes of which are least liable to contaminate the system through the medium of lymphatic vessels and absorbent glands. There seems, too, some reason to believe, that the establishment of organic changes in one structure, which arise out of constitutional causes, though not affording any *absolute* protection to other parts, yet does induce a tendency of that kind; the deposition once made acting as a nucleus, as it were, for fresh deposit. That such is the case would appear from the fact that the purer forms of malignant growth rarely remain stationary, but almost invariably increase by quicker or slower degrees. When such growths are early removed by surgical operation, it frequently, though not necessarily, happens that little or no trace of the affection reappears in the neighbourhood of the parts first affected, whilst it speedily shows itself in other organs perhaps far removed. In scrofulous affections of the joints, when the cure is effected at the expense of a stiff-joint, I suspect it stands much better than when it is effected by the removal of the limb itself. I suppose that if a gouty man were to lose both his feet, he would not be cured of his malady, but that gouty inflammation and deposition would occur in some other, and perhaps more important part.

Now these observations are irrespective of malignant affections of the ovaries, properly so called; affections in which the local disease, as well as the constitutional states, resemble in every respect malignant disease as established in other structures. There seems no reason why the ovaries should be exempt from organic changes of this character. For myself, however, I must confess that I have rarely, if ever, witnessed a case of ovarian disease, in which both the local appearances, and the general character and symptoms of the affection, exactly corresponded with that of malignant disease. True it is, that the harder forms of ovarian tumor present many of the characters of ordinary carcinomatous tumor; but then the progress of the two affections is usually very different. I suspect true malignant disease of the ovaria is of very rare occurrence; nor have many of the published records of such

cases proved at all satisfactory to my mind. I should, however, be sorry to oppose my limited experience to the authority of those who have enjoyed more extensive opportunities of observation. Trusting to the authority of others, we are bound to admit the existence of such form of disease; and what is of greater practical importance (if they do exist), we have no certain means, during its earlier stages, of diagnosticating it from the more ordinary cases of ovarian tumor.

It may be proper here to state that Dr. Baron has assumed ovarian as well as many other forms of disease to originate in the formation of hydatids. The ovarian cysts seem to have been pretty generally considered to consist of hydatids by the older physicians, as may be observed by referring to the works of Morgagni, Lieutaud, &c. That hydatids may occasionally occupy this situation is more than probable; such occurrence is, however (as far as my experience goes), very rare. A very small experience in the examination of hydatids will enable the practitioner to distinguish them from the ovarian or other cysts, filled with fluid the product of the secretion of the cysts, which are themselves directly dependent for their growth and existence upon their vascular connection with the parts from which they grow, and to which they become attached.

Diagnosis of Ovarian Disease.

During the various stages of its growth, ovarian disease, whether solid or fluid, is liable to be mistaken for other affections; the subject, therefore, of its diagnosis demands attention.

In its earlier stages, before the tumor becomes visible above the brim of the pelvis, it may (as has been already stated) give rise to constipation or strangury, by pressure on the rectum or neck of the bladder; or it may even induce inflammation of these organs. In such cases it may prove difficult or impossible to discover the ovarian disease to be the cause, and the practitioner will be liable to regard the effects produced as the whole disease. Examinations by the vagina or rectum, excepting under very aggravated circumstances, it would in most cases be indelicate to propose,—nor would they probably be acceded to; or, if permitted, the tumor may be beyond the reach of the finger, in which case little or no light may be thrown on the affection. Some degree of irregularity, or absolute suppression of the catamenia, particularly if having existed some time previously to the attack in question, may lead the practitioner to suspect some mischief in the ovaries; but then, as such irregularities may exist independently of structural changes of these organs, the opinion amounts in reality to little more than a suspicion. Chronic inflammation or other organic change in the uterus, the retention within it of the menstrual secretion, or retroversion of this organ, may, by giving rise to similar symptoms, be taken for ovarian disease. The diagnosis between these affections can only be cleared up by examinations per vaginam and rectum.

As the disease advances, it may simulate pregnancy; and this not only from the enlargement of the abdomen, but, if both ovaries are diseased, and the tumefaction corresponds in its period and extent with that of pregnancy, the deception will be rendered the more perfect by a correspondent cessation of the catamenia, and sometimes even by enlargement of the breasts and secretion of milk. An instance of this kind is given in Case VI., in which, however, the abdominal enlargement was due, not to the presence of ovarian tumor, but ascites. The deception is still further increased by the delusive sensations of the patient, who frequently declares herself conscious of the movements of the child; and this also was the case (No. VI.) of a woman several years married, and who had borne several children. Professionally speaking, the diagnosis between ovarian disease and pregnancy can rarely be difficult; but, inasmuch as the disease is liable to affect unmarried females, the decision of the question is often one of great delicacy, and of the highest importance, since a mistaken diagnosis may risk the reputation of the patient no less than of the physician, and may involve a whole family in disgrace or misery. An examination per vaginam could scarcely fail to prove to an experienced accoucheur the real nature of the case; but in the instance of single women such could not with propriety be proposed, unless under circumstances of extraordinary difficulty. The practitioner must therefore have recourse to a care-

ful investigation of the patient's history. The mode and situation of the commencing enlargement should be inquired into; the abdomen should be carefully examined as to the present appearance of the tumefaction, and the sensations to which it gives rise on manipulation; the state of the umbilicus should be observed; the cold hand, just removed from a basin of cold water, may be suddenly placed flat upon the abdomen, to ascertain whether any fœtal movements are to be felt; the stethoscope may be used to discover the presence or absence of the circulation of the fœtal heart or placenta. If all these measures fail to afford a satisfactory diagnosis, then, and not till then, in the case of an unmarried person, should the other mode of investigation be instituted. It need hardly be remarked, that in those cases in which motives exist for deception, the practitioner cannot safely rely upon the mere assertions of the patient; the fact of the persistence of the catamenia, and some questions of this character, should therefore be ascertained, if possible, not from the patient herself, but her attendants.

Ovarian tumors, if chiefly solid, will be more readily, if entirely fluid less readily, distinguished from ascites. The history of the case will here afford much information. There may, in all probability, be an entire absence of any evidence of those conditions on which ascites generally depends. The early commencement of the tumefaction may have been distinctly and clearly remarked by the sufferer. Then ascites is usually attended with much more urgent symptoms of constitutional decay than a fluid ovarian tumor of equal standing. As regards the present state of the abdomen, as evinced by local examination, unless the ovarian cyst be unolocular, and the cyst itself very thin, fluctuation will be much less distinct in this than in ascites; or if ovarian, the tumor, though universally fluid, may be distinctly nodulated, its surface presenting to the touch such inequalities as are due to the varied states of distension of the different cysts of which it is composed; if some of these compartments are distinctly hard and solid, the diagnosis will be rendered still more evident. In those instances in which the ovarian cyst is unolocular, and in which the diagnosis between this affection and ascites is most difficult, I have found the most satisfactory assistance from a plan which I learnt many years ago, at St. George's Hospital, from Dr. Chambers: it consists in placing the patient perfectly flat in bed, and with the head and shoulders as low as possible: in this position, if percussion be used upon the upper portions of the abdomen and around the umbilicus, in ascites it will be found resonant, because the fluid gravitates to the lower parts of the body, whilst the bowels partially filled with air ascend; whilst the percussion of the lower parts of the abdomen, in the line of the ascending and descending colon, will elicit a perfectly dull sound; the reverse of which circumstances occur in ovarian dropsy, which lying before (or in this position rather above), the bowels affords a perfectly dull sound in the umbilical region, whereas the colon, lying below the encysted fluid, affords the usual resonant sound on percussion. This mode of diagnosis may be rendered still further effectual by shifting the position of the patient in various directions, especially when both forms of disease are combined, as is not very unfrequently the case. It will be recollected that the accuracy of this mode of diagnosis was severely tested in Case VI.

Nor are these the only affections with which ovarian tumors are liable to be mistaken. From other abdominal tumors, as of the liver, spleen, pancreas, omentum, mesentery, &c. they are chiefly distinguishable by a careful history into the earlier stages of the case; the concomitant symptoms, and states of general health; the present situation, position, and attachment of the tumors, &c. The mistaken diagnosis of such affections, which was formerly chiefly culpable as evincing a deficiency of professional skill and tact, has become of the more importance latterly, since the revival of an operation which had been previously almost abandoned, for the extirpation of ovarian tumors.

Collections of fæces, or even of flatus, in some portions of the lower bowel, have been occasionally mistaken for ovarian tumors. The position of the colon, in some parts of its course, is liable to occasion such mistakes, which are the more unfortunate, inasmuch as the practitioner may have been induced to abandon the cure of a troublesome

and painful affection, in the idea that it was irremediable; and thus, on the part of the patient, may mental anguish be added to bodily ill. In the instance of solid fæculent or other accumulation, a careful inquiry into the history and first origin of the case, with most accurate observation respecting its former and present position, and a careful investigation into the previous state of the bowels, with examination of the present condition of the evacuations, will often be sufficient to lead to an accurate diagnosis, or at least to excite such suspicions of the real nature of the case as to induce the practitioner carefully but steadily to use those means of treatment which are capable of removing the lesser ill. These consist in the steady but active use of purgatives, especially the aloetic, combined with mercurial preparations, scammony, castor oil, oil of turpentine, &c., and the employment of copious enemata. Collections of flatus are more readily recognized by their tympanitic resonance, if the fingers be closely pressed down upon the tumor, and percussion be made upon them with the other hand.

A very abundant deposition of fat in the omentum and abdominal parietes has been occasionally mistaken for ascites or ovarian dropsy. Such an error in diagnosis is not to be treated lightly. A medical man of my acquaintance in this town informed me that a surgeon, since dead, uo less celebrated for his professional skill than his excellency of heart, once tapped a patient of his, whose sole affection was a fatty abdomen. The result was fatal. The operation was unfortunately proposed and acceded to, without my friend (who was the ordinary medical attendant) having been consulted with or informed of it: had such step been taken, this disastrous result would have been avoided.

[To be continued.]

ON THE

FORMATION OR SECRETION OF CARBON BY ANIMALS.

To the Editor of the Medical Gazette.

Sir,

The scientific world is at present much occupied with the application of chemistry to animal and vegetable physiology; and it may be interesting to some of your readers to know, that by a few very simple experiments they may satisfy themselves upon that branch of the subject which relates to the formation of carbon by animals.

Suppose an animal, which comprises in its whole system 50 parts by weight of carbon, to be kept for five days, during which it consumes other 50 parts, it is evident that, if during the five days it gives to the atmosphere 60 parts, and at the end of that time it is found to have increased its weight of carbon by 10 parts, there is a positive gain of carbon equivalent to 20 per cent.

The experiment may easily be made upon young small animals. Take two of these so nearly alike, that there can be no material difference in the weight of the carbon they comprise. Kill one of these, and expose it to a temperature not exceeding 220°, for two or three days; it may then be powdered, and by subjecting an average sample to analysis with oxide of copper, the weight of carbon comprised in the entire animal may be determined with the greatest certainty. The other being supplied with food, the weight and chemical constitution of which is ascertained, should be kept in a limited atmosphere, which must be tested and changed every one, two, or three hours*, the increased proportion of carbonic acid of that atmosphere will shew the quantity of carbon given off by the animal in the course of the experiment; and the increase or decrease of carbon in the animal itself may be ascertained in the manner above mentioned.

In this manner I have experimented upon many animals; and without taking account of the carbon which passes off otherwise than by respiration, the result has invariably been a great increase of carbon,—an increase which cannot be accounted for, unless we conclude that carbon is secreted by animals.

Amongst my best experiments are those made with young mice. A healthy young mouse, weighing 200 grains, comprises in its constitution from 25 to 30 grains of carbon; when fed daily with 60 grains of bread moistened with water, containing about 16 grains of carbon, it increases in weight,

* The health of animals appears to be affected by an atmosphere containing more than five per cent. of its volume of carbonic acid.

and imparts to the atmosphere from 20 to 26 grains of carbon, the quantity varying generally with the quietness or the activity of the habits of the animal. A kitten, from six to ten weeks old, when supplied daily with four fluid ounces of skim-milk, containing 66 grains of carbon, will increase in weight, and impart to the atmosphere from 80 to 110 grains of carbon.

Either of these two animals may be kept without food until they give off by respiration a weight of carbon equal to 80 per cent., and retain from 60 to 70 per cent., of that which they comprised at the commencement, shewing that a weight of carbon equal to 40 per cent. has been secreted. The experiment may also be made with birds supplied with little or no food. A tomtit was placed under experiment without food; the bird was violent and restless during its imprisonment. In sixteen hours it imparted to the atmosphere 65 per cent. of carbon, when it appeared to die of exhaustion, and retained 77 per cent. of the weight of carbon it originally contained; shewing a secretion of carbon in sixteen hours, when under violent exertion, equal to 42 per cent.

On making the carbon in the food, and that in the air respired by a full-grown person, the basis of our calculation, we obtain results which favour the conclusion that carbon is likewise secreted by man. Physiologists estimate the weight of carbon in the air respired by an adult at from 5000 to 6000 grains per diem. I have subjected to analysis many articles of food, and found this weight of carbon far to exceed that in the food consumed by most labouring men, who may be supposed to impart to the atmosphere the greatest weight of carbon. A person eating each day after the following rate will consume 6000 grains of carbon:—

Rump steaks	1 pound	containing 1050	grains of carbon.
Bread	1½ do.	„ 2830	„
Potatoes	½ do.	„ 310	„
Porter	2 pints	„ 760	„
New milk	2 fl. oz.	„ 57	„
Butter	½ ounce	„ 320	„
Cheese	1 do.	„ 150	„
Sugar	2 do.	„ 350	„
Coffee	1 do.	„ 96	„
Tea	1 do.	„ 80	„
		6003	

This weight of carbon is not more than is consumed by some persons who are actively employed, but it far exceeds that in the food of our labouring population; and on comparing it with that allowed for each adult in the different workhouses, &c. we have in the dietary of the

	Per Cent. of this 6000.
City of London Union	75
Brentford do.	50
Uxbridge do.	55
Alesford do.	56
Macclesfield do.	44
Westminster New Prison	57
Milbank Penitentiary	80
House of Correction, Clerkenwell	53
Hanwell Lunatic Asylum	75

And if we make the carbon in the food of some of our agricultural labourers the subject of comparison, we find the deficiency greater than in any of the above mentioned dietaries.

I could add to these many other experiments, which furnish, in my opinion, irresistible evidence of the secretion of carbon by animals. If an animal be kept without change of circumstances, or of diet, except as to the quantity of food, it will be found that the weight of carbon in the air respired does not vary in proportion to that consumed in the shape of food. On the contrary, the deficiency of carbon supplied seems to be met by an extraordinary effort of the animal system, as appears from the following results of accurate observation:—

	In the Food.	In the Air respired.
If an animal in the first 24 hours has a plentiful supply of food, there is	80 grains of carbon.	100
In the next 24 hours a less quantity	70 „	94
„ „ a sparing do.	60 „	87
„ „ a small do.	50 „	78
„ „ a very small do.	40 „	65

But if the animal, instead of having its quantity of food varied, should be sometimes left in a quiescent state, and sometimes excited to great activity, the weight of carbon given off will be found to vary in proportion, within certain limits, to the activity of the habits of the animal, and the exertion called forth.

If the carbon in the food be represented by	100
That given off by an animal of easy habits will be . .	110
That given off by an animal of active habits will be .	130
Do. do. when under exertion	140
Do. when under great exertion	150

If the animal be both stinted of food, and excited to great activity, the difference between the carbon comprised in the food and that given off by the animal is as follows :—

	In the Food.	Given off.	Difference.
Carbon .	100	120	20
„ .	80	105	25
„ .	60	90	30
„ .	50	85	35

Hence food is a substitute for expenditure of animal strength. To this may be added, that when an animal is distressingly exercised, the weight of carbon in the carbonic acid given off by respiration is at first increased, afterwards gradually diminishes, and becomes much less when the animal is in a state of exhaustion. Rest alone is not then sufficient, but rest and food soon restore the strength of the animal; and with its strength its power of secreting carbon—a power which I conceive to be essential to animal life, and which will probably furnish a solution to some of the most difficult problems of animal physiology, including that of the generation of animal heat,

I am, sir,
Your obedient servant,
ROBERT RIGG.

Greenford, Middlesex,
Aug. 14, 1844.

ON THE ABSURDITIES OF MESMERISM.

To the Editor of the Medical Gazette.

SIR,

I SAT down merely (as I thought and intended) to obtain, through your instrumentality, some information about the case of clairvoyance which occurred in the person of Miss M'Avoy, at Liverpool, some quarter of a century ago; and, although recommending silence as the best mode of treating such tomfooleries as mesmerism, &c., I found myself gradually led on to writing what I fear will be too long for publication.

A serious objection to many—even well-informed men — entering gravely upon the investigation of such pretensions as those set up by the phreno-mesmerists, is that sooner or later they become bothered, and ultimately may be duped. As Pope says, alluding to the dangerous and contaminating character of vice, that

> "Vice is a monster of so frightful mien,
> That to be hated needs but to be seen;
> Yet, seen too oft—familiar with her face—
> We first endure, then pity, then embrace!"

And so do I believe it to be with all follies however great; and, I should say, with mesmerism among the rest. Collusion seems, perhaps, to have been too much talked of, and the real character of delusion not sufficiently insisted on. Men generally would rather be charged with knavery than be considered insane. Insanity, in any form, we naturally shrink from. The charge is easily made,—insinuations, looks, suffice,—and is just as difficult to rebut.

Phreno-mesmerists, in defending themselves from us, stick closely to the collusion part of it; they fight very shy of the other. We have had many of these vagabondizing characters in Newcastle, and bearded them too, publicly in some degree, but chiefly in private. Still, they have pocketed large sums of money; but, like old Shakspeare's "baseless fabric of a vision," they have not left much trace behind. Out of about 120 or 130 medical practitioners, they have only proselytized I think some 3; of whom I shall say nothing.

I am, sir,
Your obedient servant,
M.D.

Aug. 6, 1844.

The "demoniacal mummeries" of mesmerism, as the humiliating, but withal lucrative, exhibitions of Mainaduc, Holloway, Loutherbourg, and others, were styled (in 1788) by Hannah More —as well as the similar follies of our own day — would perhaps be most suitably treated by silence, since the

consideration of them by men of acknowledged reputation is only calculated to extend and perpetuate such absurdities, by seeming to invest them, in some degree, and for a time at least, with importance and plausibility; by bestowing upon them, so far, the air of something requiring, and likely to repay, the labour and thought of our leading men. To say nothing of the enormous sums of money realized by these vagabonds—the *soi-disants* "lecturers," and their "subjects" who accompany them,—of whom there can perhaps be only one opinion, how irresistible the temptation thus offered to a Parisian shopkeeper, or a Sheffield poetaster, to obtrude himself on public attention as the fellow-labourer of a man of scientific eminence! How vastly gratifying to the vanity, how exciting to "the love of approbation," of a sewing girl, or a barber's apprentice, to be nightly exhibited to a wondering and applauding audience! and, week after week, to figure off as the subject of the so-called "deeply interesting experiments" so eagerly sought after, and, *con amore*, recorded by our newspaper press!

Mesmerism, like the doctrines of many other sects, seems to owe its wonderfully rapid progress, and its singularly enthusiastic reception among the excitable and untutored masses, chiefly to the "soft-sawder" principle. It offers to any and every one, no matter of what age or sex, no matter how ignorant or obscure, the tempting opportunity of becoming, very harmlessly, very conspicuous; it admits the humblest and most insignificant, unrestrictedly for a time, into the society of the proud and lofty; it enables the veriest dunderheads to go hand in hand, as "philosophical inquirers," (forsooth!) with men of the highest scientific repute! The knowing founders of many of our religious sects were well aware, and as carefully did they avail themselves, of this curious and effective mode of working out their designs; and there is little doubt that quackery, in our own profession, greatly owes its success to the same principle. As when an ignorant self-conceited fellow, swallowing the pills which he has bought on the strength of newspaper puffs, imagines that he has been prescribing for himself (inasmuch as no one else appears to have had to do with his case!) and forthwith he strenuously recommends his prescription, right and left, with, of course, very little attention to symptoms. It was, in all probability, in much the same manner, and for very similar reasons, that phrenology, or to speak more correctly, cranioscopy, became so rapidly and permanently popular, since, through its magical aid, thousands of incompetent creatures suddenly and most unexpectedly found themselves transmogrified into "moral philosophers!" Talk of reasoning with such happy converts! What! reason them out of their pleasing conceit! No, no!—too well they know that in their case "'twere folly to be wise;" their ignorance is blessed; why then disturb them? Mesmerism, however, is not quite so harmless a bauble as is cranioscopy. On perhaps a somewhat similar principle may we account for the remarkable fact that an oral or epistolary discussion—a struggle, as it were, that calls into activity a leading and most universal trait in the human character, viz. the love of power (which, like the desire for knowledge, these would-be mental philosophers, the cranioscopists, have never felt the want of!)—has seldom, if ever, terminated in the conversion of either party—at the time at least. Yet an obstinate bigot may, readily enough, be converted by a book, or by a speaker in a public assembly; provided he get his "new light" unobserved. Your advice, then, seems sound—not to name such a subject as mesmerism to its votaries. Such a delusion it is perhaps best to notice only indirectly, if at all; to exert our energies chiefly or exclusively in preserving the untainted from its influence, which cannot but be injurious. In any discussion on the subject of his delusion, the deluded is often highly ingenious, and in all conscience sufficiently fertile in resources; Xenophon himself might have had many a wrinkle put upon his horn, by our slippery friends the phreno-mesmerists! No less truly than frequently have they hinted to us, that there was "more in heaven and earth" (by which I suppose they must mean in their rum "science," or in their manner of jockey-ing the same) than we have dreamt of in our philosophy! Keeping, however, his peculiar folly out of view, the phreno-mesmerist may be as candid and

as rational as his neighbour; and on all other occasions, saving always mesmeric discussions of course, he may be sufficiently polite and even-tempered; but upset his conclusions, and expose his "facts"—in short, explode his system, and subject him to ridicule and contempt, and then coolly review your quondam gentleman! The less tenable a man's position is, the more humiliating and insupportable will be his defeat; the reason of so signal a discomfiture is lost sight of, and the victor is blamed for all! The vanquished man, deeply aggrieved, considers himself persecuted; and winds up by charging his honest clear-headed opponent with a gross want of candour, sense, and politeness! Having thus discharged a volley, he turns inwards upon himself, as to the only friend in this world on whom with confidence he can rely; soliloquises perhaps a while; and then, wrapping himself up again in his favourite opinions, he remains a more doggedly obstinate man than before! No feature perhaps in this mesmeric movement has been more remarkable than the settled child-like impatience, the intemperate zeal, nay, downright wrath, with which its advocates (aye, even where these were ministers of the Gospel!) have upheld it; a fact totally inexplicable on the supposition of its being a "science," and but too clearly indicative of its real nature! Yet, blind as an out-and-out phreno-mesmerist is to the utterly monstrous and absolutely impossible character of what he (in common with others of his peculiar sect) has espoused, he nevertheless remains "wide awake" to the different delusions of others; a state which he holds in common with monomaniacs, as is exemplified in our various asylums, where may be seen a little caricature of society, each member laughing in his sleeve at all around him, and, in his turn, being laughed at by all; yet each remains happy in his own conceit. These observations may, to many, seem too harsh as applied to the phreno-mesmerists; so they might be considered, if they had been addressed to that body; but, Sir, as your journal is *not* their organ (chosen or self-appointed) we may indulge in the hope that their feelings will in few, if in any, cases be outraged by a perusal of the above remarks—which, however, the recent displays, public and private, seem fully to warrant, and which the pitiful letter of poor Mons. Marcillet most forcibly suggested. Much might probably even yet be done towards recovering such unfortunates, as you properly suggest, by never again thwarting or irritating them, but by letting them have their full swing; their immediate friends, however, would do well to strew their path with such books as Mackay's "Extraordinary Popular Delusions," Hecker's "Epidemics of the Middle Ages," &c. &c. Such works, calmly read, even learnt and digested, with no nasty horrible unbeliever, or quibbling and vexatious opponent present, to disturb the even current of their thoughts, or to chuckle at their want of pig-headed obstinacy, are more likely by far to stem the headlong torrent, or still "the raging tempest" of mesmerism, than all the discussions and investigations that ever have been carried on.

By the way, the preposterous pretensions of Alexis recalled to my memory the very similar case of a Miss M'Avoy, at Liverpool, some twenty or twenty-five years ago; perhaps some of your Liverpool correspondents would oblige us all by a few pages from her "Memoirs"—written, I think, in 4to., no less, by Dr. Renwick, whom she (unaided by mesmerism) succeeded in convincing of downright physical impossibilities. The upshot especially you would do well to record; perhaps it might be quoted, who knows, in the "Mesmerical Times;" and may be it might do good in some quarters. The "mesmerized" of Deleuze, of Dupotet, and others, previously to the "discoveries" in phreno-mesmerism, gave out all kinds of "manifestations" without ever having their "organs excited." But enough of this. I fear that I have already wearied you and your readers even while attempting to take the only (probably) philosophical view of phreno-mesmerism, by regarding it as a comparatively harmless epidemic. About this time last year, Paris was "visited" as London now is: London was then almost undisturbed*; so is Paris at present. We certainly do neither dream of, nor experience such things in our philosophy.—Believe, me, Mr. Editor,

Yours truly,

"An Unbelieving Spirit."

Banks of the Tyne, Aug. 1844.

* Consult a file of the *Spectator*, or *Morning Herald*, for a humorous article.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Elements of Physiology for the Use of Students, and with particular reference to the wants of Practitioners. By RUD. WAGNER, M.D. Prof. Comp. Anat. and Physiol. Göttingen, &c. &c. Translated from the German, with Additions, by R. WILLIS, M.D. Memb. Royal Coll. Physicians, Lect. on the Principles and Practice of Medicine, &c. 8vo. pp. viii. and 700. London, 1844. Sherwood, Gilbert, and Piper.

IT may be said that there is no want of elementary treatises on physiology, as there are already works of this kind, like that by Professor Müller, of great excellence. But then it must be recollected that this science is eminently progressive, and that, of late years, there has been an accession of new facts and inferences, unexampled since the time of Haller, and perhaps even of Harvey and his immediate successors, Malpighi, Lower, and Borelli. Besides, to the mass of medical men, who have neither time nor opportunity to consult regularly the transactions of learned societies, and the other numerous periodical depositories of physiological research, an occasional new compendium of all that is worth recording, or best established in this branch of knowledge, is absolutely necessary, not only to satisfy a moderate craving for information, but to prevent the reproach of ignorance.

Professor Wagner has been so long known throughout Europe as an accurate observer, and very original inquirer, in the wide field of physiological science, that it is pleasing to see the results of his labours in a systematic shape, and comprising at the same time an account of every thing of importance which has been done by his predecessors and cotemporaries. This he has accomplished, as far as the subject of special physiology is concerned, in the present treatise, which is presented to the English reader by a physician whose occupation in practice and teaching have afforded him ample means of becoming acquainted with the wants of practitioners and students, while his knowledge of the additions which physiology is constantly receiving has enabled him to enrich the work with notes, so as to bring down the information to the very day of publication. In this part of his labour, too, he has judiciously availed himself of the aid of some of his friends, in those branches of the subject to which their attention has been particularly directed, and concerning which their inquiries had previously become of recognised value. And when it is considered that all this has been comprehended in one volume, concisely and clearly, it will be at least allowed that the convenience as well as the instruction of the reader has been carefully had in view—a circumstance which has been neglected in some of the learned and highly valuable works of earlier date.

Professor Wagner divides his treatise into three parts: the first treating of Generation and Development; the second of Nutrition; and the third of Sensation and Motion; thus completing the subject of special physiology. These heads, again, are divided into numerous chapters, each of which is further subdivided in due order, so that the various matters are discussed with admirable method, and the contents of the different sections may be consulted with the utmost facility. The sections treating of the physical and chemical analyses of the blood, and of the lymph and chyle, of the physico-chemical part of digestion, and of the chemical processes of respiration, are by Dr. Julius Vogel.

The part devoted to the subject of generation contains a more complete exposition of this subject than is to be found in any other English work. The male sexual organs and their products are first examined, including a remarkably exact and full account of the spermatozoa in the different orders of the animal kingdom, with a physical and chemical analysis of the spermatic fluid. The figures illustrating the form, size, and development of the spermatozoa, are very numerous, and have evidently been executed with the greatest care. The author regards these curious bodies as essential elements of the seminal fluid, just as the corpuscles are of the blood. He could never satisfy himself that there is any internal organization (like that which exists in the entozoa and infusoria)

in the spermatozoa; and he justly remarks, that the manifold forms which they present must be considered as evidence of so many distinct species, in case their independent animal nature should ever be demonstrated. Viewing these forms, now so clearly proved, it is worth while, as a mere literary curiosity, to refer to the results of the microscopical observations of Mr. Bauer and Sir Everard Home, as related in the fifth volume of Sir Everard's Comparative Anatomy; where he gives a remarkable history of the journeys which he and Mr. Bauer made, and the difficulties they met with in their search for seminal animalcules, with the aid of the best instruments,—but all in vain! Even an examination of the semen of the fallow deer, during two rutting seasons, was equally fruitless. Hence he maintains that there are no such things as seminal animalcules, and that the Leyden student, Ham, who first discovered and shewed them to Leeuwenhoeck, was altogether deceived, and the cause of deception to his successors.

Professor Wagner has given an interesting account of the evolution of the spermatozoa in various vertebrata, and of the enlargement of the testes of birds at the pairing season,—a subject which has since been investigated by Mr. Gulliver*, who has confirmed the accuracy of Professor Wagner's observations, and added some new ones, especially as to the remarkable turgidity and enlargement of the seminal tubes, the attenuation of their coats, and their distension almost to bursting at this period, by the accumulation of seminal cells, the vast increase of minute molecules, and spermatozoa. Well, therefore, might the poet of nature say of the vernal song of birds,

> "'Tis love creates their melody, and all
> This waste of music is the voice of love."

Mr. Gulliver found the spermatozoa of the camel very nearly resembling in all respects the spermatozoa of the Cervidæ, although it will be recollected that the Camelidæ present the curious anomaly, among mammals, of oval blood-discs. The spermatozoa of mammalia, he observed, were not at all affected by various re-agents, as acetic and several other acids, which quickly act on most animal matters; yet the spiral spermatozoa of birds were immediately destroyed by the vegetable acids. This curious observation well shows the justice of Professor Wagner's remark, in speaking of the chemical nature of the spermatic fluid, that microscopical analysis must henceforth go hand in hand with that which is purely chemical. Having mentioned the spermatozoa of the Cervidæ, we may just add, that these very objects, which seem to have caused so much trouble to Sir Everard Home, were always found by Mr. Gulliver in the fallow deer at Windsor, both during the rut and at other times.

Professor Wagner next proceeds to a consideration of the germ-preparing organs in the female, which, with many other allied subjects, must be consulted in his pages. The history of the incubated egg is very well told; and then we come to the account of the development of the human embryo, with supplements from the history of the embryo of lower mammalia. And on this subject it is gratifying to see that the translator has done justice to the claims of Mr. Wharton Jones, of whom it is remarked, that he was, beyond all doubt, the discoverer, independently, but contemporaneously with others, of the germinal vesicle and spot in the ovum of man and mammiferous animals. By what strange error Mr. Jones's paper was not printed in the Philosophical Transactions, after it had been read at the Royal Society, is a subject deserving of some inquiry, especially as it is well known that he was the original interpreter in England of the important discovery of Baer, and fairly confuted him on the question as to the Graafian vesicle at large of the mammal being held as corresponding to the vitellus, with its contents, in the bird.

Professor Wagner next treats of the development of the various tissues; and here, besides his own observations, we have those of Schwann, and of Valentin, in two distinct papers, drawn up by the authors themselves specially for this work,—a fact which ought to be sufficient to induce every physiological student to possess himself of treasures of which he cannot obtain elsewhere an English version in such an authentic form, and which have the rare

* Proceedings Zoological Society, July 26, 1842; and April 11, 1843.

merit, at least among discoverers, of great clearness in a moderate compass.

Professor Wagner proceeds in the next place to treat of Nutrition, beginning with the blood, which may be assumed as the centre of the process. The microscopical analysis which he has given of the blood corpuscles has never been equalled in any systematic work before published; and the translator has enriched it most materially from the numerous observations of Mr. Gulliver. On the long contested question as to the nucleus in the blood discs of mammals, these two observers seem to agree that it does not exist,—at least that these discs have no nucleus like that found in the lower vertebrata.

By this statement it is not intended to deny that the corpuscles of mammalia are destitute of any central matter, for Mr. Gulliver depicts this part of the corpuscle, which remains after repeated ablutions with water, as very thin and diaphanous, and about two-thirds the size of the fresh and unaltered disc. This central part, therefore, has no resemblance whatever to the nucleus of the blood disc of any vertebrate oviparous animal. According to Mr. Gulliver, even the blood discs of the camels, which are of an oval shape, correspond in structure with the blood discs of other mammals.

The observations of Henle are also to the effect that the blood discs of mammals are mostly destitute of any regular nucleus. But both Professor Wagner and Mr. Gulliver prove the existence of a most substantial nucleus in the blood corpuscles of very young mammiferous embryos,—an interesting fact, showing that what belongs to the blood of the mammal only for a short time during intra-uterine life, is a permanent character in the blood of the oviparous vertebrate animal.

The globules of the blood, commonly known in this country as the colourless or white globules, the author describes as the second order of solid elements in this fluid. He, like Hewson and Müller, regards them as lymph globules, and shows, from some interesting and new experiments, that they are always very numerous, if not most plentiful, in well-fed animals. In frogs these globules were seen by him much more abundantly in August than in February. The globules found in lymph are said to bear a strong resemblance to the pale globules of the blood; to which it is added by Mr. Gulliver, that the latter are rather larger and more regularly and distinctly nucleated than the former. Professor Wagner agrees with Nasse, Henle, and others, that an envelope may be often seen forming around these lymph globules, which is interpreted as their transition state towards the common red blood corpuscle. The chyle and lymph globules are stated to swim in a fluid that is comparable to the plasma or liquor sanguinis, which is no subject for further microscopical inquiries—a remark which the translator very properly objects to, since the microscopic fibrils in the chyle have been distinctly figured by Mr. Gulliver (Gerber's Anatomy, fig. 281), who also shows that the base of the rich chyle during digestion is formed of very equal sized and extremely minute molecules, which appear to be of a fatty nature (loc. cit., note, p. 56, and App., p. 89). The observation is interesting, because the researches of Acherson, Henle, and Dr. Davy, have shown it to be probable that the elementary granules or nucleoli of cells are constantly allied in chemical character to oleine; and as Dumas has declared that animals only derive fat from vegetables, being incapable of converting starch or any other vegetable matter into fat, it may justly be asked whence comes the molecular base of the chyle, and the larger fatty globules, which Mr. Gulliver has seen in the horse? In the account of the blood generally there is a vast quantity of information which cannot be considered here. The translator has rightly insisted on the just claims of our eminent countryman William Hewson, and has added much additional matter from the very original and important researches of John Davy.

Passing over the account of the vascular system in the various organized beings, from vegetables to man, and the subjects of digestion, respiration, secretion, absorption, and the more intimate processes of nutrition, sections to each and all of which the translator has added many original and practical observations of great interest, both to the physician and the phrenologist, we come to the Third Part, which comprises the history of Sensation and Motion, with all the parts concerned therein. But

here, though we see that there is much matter well calculated to engage attention, we also see that the limits commonly allowed to a notice of this kind have already been exceeded. It is not within the scope of the MEDICAL GAZETTE to give a regular abstract of the multifarous objects, extending over the whole domain, of a systematic work on physiology; therefore, nothing more than a glance at some of the interesting matters with which Professor Wagner's treatise abounds has been attempted, and even this has led to a more lengthy notice than could have been allowed for an ordinary publication. Here, therefore, we must pause, and refer the reader again to the work itself; yet the last note, exhibiting a tabular view of the result of several hundred observations on the weight of the human brain, by the excellent resident physician to the St. Marylebone Infirmary, Dr. Boyd, must not be passed over. He shows that the weight of this organ increases from the age of ten to forty years, and soon afterwards begins to diminish. When, therefore, the concurrent observations of the late Dr. Sims are considered, the prevalent error that a child of eight years of age has as large a brain as a full-grown person, must be discarded; while it appears that the greatest size, or at least weight of the brain, is generally connected with the greatest vigour of the mental faculties. To prove the difference of size, however, without the possibility of any further doubt, observations on the specific gravity of the brain at different ages should be made; and these are yet wanting to physiological science.

The woodcuts, too, with which the editor has so profusely illustrated the work, require especial notice. They are chiefly derived from the Icones Physiologicæ of Professor Wagner, but often, also, from original sources.

The execution of the cuts is highly creditable to Mr. Vasey; for, with a few exceptions, such as figure 140, they are really excellent, and the best examples of the kind with which any physiological treatise had before been so liberally adorned.

When we consider the wretched affectation of some English anatomists in explaining all their figures by Greek letters, and in adopting foreign standards of measurement instead of English ones, for the microscope—and that, too, while our continental neighbours, in quoting our own works, take especial care to render our measures, either of heat or size, into the standards of their country—it is to be regretted that the editor of Wagner, in escaping some of these sins, had yet not given his measurements in vulgar fractions of an English inch. It is true that a very easy rule is given by which Paris lines may be turned into English measure; and it is also true that very excellent tables of contents precede the work, though this is scarcely a sufficient reason for the omission of an index.

It does not seem too late to rectify some, at least, of these objections; they would, indeed, be of comparatively little moment, were it not for the passing worth of the English version of Professor Wagner's Physiology, which is certainly the most original, exact, and comprehensive treatise on the subject which has ever appeared, within nearly the same size, in this or any other country.

MEDICAL GAZETTE.

Friday, August 23, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

THE NEW MEDICAL BILL—No. II.

SHALL THE MEDICAL PROFESSION BE OPEN TO ALL AND SUNDRY, LETTERED AND UNLETTERED, COMPETENT AND INCOMPETENT, CHEMIST AND DRUGGIST, QUACK AND IMPOSTOR, OR SHALL IT BE LIMITED TO THE EDUCATED PHYSICIAN AND SURGEON?

IN our last number we fixed upon what we regarded as the cardinal defect in the proposed Medical Profession Bill, viz. its silence in regard to all manner of quacks and ignorant and unlicensed practitioners. We see no reason to depart from aught we have there advanced: it may not be easy, it may not be possible, wholly to prevent quackery and incompetency from meddling with the practice of medicine; but the law ought to shew its abhorrence of quackery, and to set its face against

incompetency in the exercise of the most difficult art that engages the ingenuity of man, by decidedly and distinctly proclaiming that it would use every available means, even to the *peine forte et dure* of incarceration and fine, in order to protect the community against malpractice in the art medical. It has not yet been found possible to prevent robbery, or murder, or rape, or wilful fire-raising, or defamation, or any other of the deadly crimes; yet who would be so mad as to propose repealing the whole of the statutes against theft and murder, rape aud arson, &c. &c.? To pass the Medical Bill as it now stands would be virtually to throw three-fourths of the medical practice of England into the hands of chemists and druggists, who, merely because they deal in the articles that are used by the physician and surgeon, and compound according to their prescriptions, even by educated persons are all but universally regarded as skilled of course in the knowledge and treatment of diseases.

Strange to say, a tender regard—we say an over tender regard—to the interests of this class of shopkeepers, is made a principal difficulty with some persons in regard to the introduction of any clause into the Medical Bill affecting incompetent persons. The mischief that is done at the present day by the class of tradesmen in question, is, however, sufficient of itself, we conceive, to call for the interference of the legislature. The ignorant public do not know that they might as well apply to the green-grocer, because he deals in thyme, and marjoram, and mustard, in case of the illness of a child or other near relative, as to the man at the corner of the street with the red bottles in his window, because he has rhubarb and senna and cream of tartar for sale. Yet do the ignorant public and the poor every day pay heavy penalties for their misplaced confidence in this quarter. The man with the red bottles nine times in ten will obey the summons ignorantly given, and utterly without medical knowledge, knowing nothing of the state of things for which he is prescribing; if perchance he be acquainted with the action of the medicines he orders, he suffers disease that might have been nipped in the bud to acquire a virulence in its future stages that bids defiance to the best directed efforts of consummate skill. It is unknown what numbers die in our large manufacturing towns, who have never had any medical attendance at all; we have seen documents in the hands of the active head of one of our great public offices, which assure us that a very considerable proportion—fully one-third—especially of the children of the poor who die in Manchester, have had no medical assistance whatsoever: they have been attended by a neighbouring chemist and druggist, who had unquestionably as well have staid away, if his ability to minister to any one symptom of the least significance be considered. This is a state of things which we say of itself calls for legislative interference; and unless the party in power be of that school of political economists who have no bowels of compassion for the sick and the poor, and who regard a growing population as a growing evil, we do not see how they can refuse it. He who is the cause of one life being lost by his interference, that might have been saved but for him, is scarcely less guilty, morally speaking, than the wilful exhibitor of the pennyworth of ratsbane.

We cannot for our soul see the chemist and druggist in any other light than as a vender of the substances used by practitioners of medicine—as the trader who supplies the artist or handicraftsman with his materials. The

ironmonger may be a good judge of a file or a nail, yet is he not either watch-maker, locksmith, or carpenter; a colourman may be a good judge of ultramarine and carmine, and nut oil and mastic varnish, &c. yet no painter. Our friend Mr., Sharpset is a good cutler, and deals in knives and tenaculums, and gorgets and forceps; but is he therefore to be held competent to take off a leg, or to cut for the stone? No more is the dealer in rhubarb and scammony, blue pill and tartar emetic, to be regarded as necessarily familiar with their use in disease, or acquainted with the circumstances which indicate their exhibition. More than this, if by dint of handling and mixing medicines he thinks that he acquires any knowledge of the natural and disordered functions of the human body, and of the agencies which influence and restore them, the law must assure him that he is mistaken—that he is incompetent to interfere under such circumstances; that if he does, he is tampering with the life of a fellow creature, and will be held responsible for the consequences.

That the functions of the chemist and druggist are one, and those of the practitioner another, seems proven by the fact that the most respectable chemists and druggists decline prescribing.

In Conduit Street, for instance, we reckon three first-rate establishments, one after another, where medicines of the best quality are to be obtained, but neither Messrs. Godfrey nor Bullock, nor Fisher and Toller, would visit a man affected with fever, or a child labouring under measles, nor a man with a broken leg, nor a woman in her confinement. These respectable men confine themselves to their own province, and wish not to meddle with the practice of medicine. What they do in their several instances should be made imperative generally. Every day, every hour, satisfies us more and more of the necessity of having well-educated and high-principled men as guardians of the public health. Let the reader look at our next article, and see how ignorance and incompetence lend themselves to the slaughter of innocent children; this could not have gone on long undenounced, had the practitioners in every instance been men of the education and character which the vast majority of members of the College of Surgeons and licentiates of Apothecaries' Society boast. Mr. Belaney would have buried his wife snugly in a *common* grave, a bricked one not being to be got ready with despatch commensurate with his impatience to see his spousentombed, without the interference of Mr. Garrett, the intelligent general practitioner who was the cause of the coroner's inquest being held at all, and of Mr. Belaney's being now committed to Newgate, charged with the wilful murder of his wife. Every day, in short, is pregnant with a new instance in which society benefits by having men of education and consideration in the world for its medical attendants.

It is absurd, it is dangerous, then, to say that every man is to be left at liberty to practise physic and surgery, and that the law can do nothing to prevent him. Does the government allow every man who so inclines to brew beer and distil spirits, or to retail either or both of these poisons? By no means; it requires every man who meddles with the destructive handicraft and traffic to be regularly licensed; and so stringent and effectual are the laws on the subject, that there are probably not half a dozen illicit stills of the smallest size in England at this hour, and not one unlicensed dealer in home-made fermented and spirituous liquors. The law *can* do everything, as it is *bound* to do everything, to put a stop to incompetent

practitioners of medicine among the poor and the ignorant. We are the more urgent upon this matter, because there is a decided tendency at this moment to supplant the old apothecary, who was always held to have had some medical education, by the chemist and druggist, who avowedly has had none. What will the public gain by the suppression of the Society of Apothecaries as a medical body, if it have the Pharmaceutical Society, or an unattached corps, of chemists and druggists fastened on its shoulders? Less than nothing; indeed a great loss. The Court of the Society of Apothecaries are now men of comparatively liberal education; if they have less than seems desirable even to themselves, they have long striven well and zealously to secure the blessings of higher attainments to their younger members or licentiates. We are for a divorce between the profession of medicine and the traffic in drugs; and therefore have we treated the Court of the Society of Apothecaries with less of consideration with our pen than we feel for its members in our heart. The course of education prescribed by the Apothecaries' Society would doubtless have been much better even than it is, had they been alone and unfettered by the presence of the College of Surgeons. They have apparently calculated, however, that the deficiencies in their curriculum were in great part supplied by that required at the College of Surgeons; and this in some degree it is in fact, for the great majority of the licentiates of Apothecaries' Hall are also members of the College of Surgeons. Our war has been wholly with the trading element in the constitution of the company, or as it is now designated, doubtless with the object of keeping as much as possible out of sight,—the *Society* of Apothecaries, not with the respectable men who are its members or licentiates; these constitute probably three-fifths or more of the practitioners of medicine in England, and with their present acquirements are guardians of the poor, especially in times of sickness, whose competency and efficiency cannot be questioned. It would be a grievous matter indeed were this educated body of men to be supplanted in the next generation by a body altogether without education. But Hope was at the bottom of Pandora's box, and we do not despair of seeing Sir James Graham and the Ministry yield to what is reasonable on a matter of so much moment to the community as is the Medical Profession Bill, however little store honourable members of the House of Commons appear to set by it, when they listen to its introduction in such scanty members as two under the dozen —we are compelled by our feelings, here to speak by circumlocution.

The question of suppressing quackery and interfering with incompetency in the practice of medicine, is often treated as if it were personal to the members of the medical profession; as if they were the parties peculiarly interested in the suppression of quackery, &c. This is the view taken by our esteemed correspondent *Scrutator*, whose excellent letter—though we differ from him—is published in this day's GAZETTE.

We, for our part, repudiate this view of the matter entirely; we, and the portion of the profession we mainly represent, care not one rush for protection; we do not seek it; in so far as *our interests* are concerned, we would rather be without it. It is in behalf of the community that we raise our voice, not in behalf of ourselves.

INFLUENCE OF BURYING-CLUBS IN AUGMENTING THE MORTALITY:

PREMIUMS ON THE DEATH OF CHILDREN.

IN the evidence of one of the physicians examined before the Commissioners of

Inquiry into the state of large towns, &c., whose first Report has just appeared, we observe these words: "I used often to observe great apathy in a certain class about the death of their children. They did not seem to look on the death of the young as the great evil which it is commonly regarded; they said, "God took care of young children who died; that their death did not matter much; that life was full of hardships and misery, and that the child was provided for when it died." This feeling I found to be rather common (3313, p. 203). The picture here presented is true to nature so far as it goes; but the shades in which it must be finished, we regret to say, are of a much deeper grain than those yet laid on. There is not merely indifference among the labouring population of England in regard to the death of their children; in some places there is a positive premium upon the event, and that to such an amount that instead of dog-cart and dog-stealers' bills, and chimney-sweepers' bills, and blacklegs' bills, we shall, next session of Parliament, have to get some benevolent legislator to introduce a bill to prevent English men and English women from being accessory, in cold blood, to the destruction of their own offspring!

The new sacrifice to Moloch is perpetrated in this way: soon after a child is born, it is entered on the books of as many *burying-clubs* as the parents can command funds to pay for. The sum subscribed to each is but a few pence, or even half-pence, weekly; so that parties being in full employment can sometimes afford to have the name on the register of ten or a dozen of these societies. And the investment may always be made a profitable one: the hapless child has *but to be killed* by exposure, by neglect and worse treatment, to give these unnatural parents a claim upon the several societies of which they have enrolled their infant a member, to the extent in all, perhaps, of £30, £40, and even £50!

We feel the hot blood rising to our cheek, as the outward sense follows the pen that is fixing indelibly such statements as these, which will soon be before the public in all their revolting details, authenticated by the Commission whose first report is referred to above.

What comment shall we make, what comment *can* be made, upon a state of society so horrible—a state of society in which one of the first and most powerful impulses of the human heart is set at nought? Tigers and wolves give suck, and laying their savage natures by, tenderly wait upon and cherish their young. Man and woman, made more than wolf or tiger by force of circumstances, beget children in the prospect of deriving pecuniary advantage from their death!

The difficulty of living, the recklessness that is engendered by the pressure of vice and misery, and the daily and familiar contact with them, lead men first to despise the laws of God, which are also those of nature, and then to defy the laws of man—to set fire to the ricks that contain the harvests which their own hands have toiled for and gathered, and so to destroy in an hour the bounty of a year,—to smother natural affection in their hearts, and doom their own flesh and blood to premature death, that they may have a fuller meal and a draught of beer the more! Great God! is it not horrible! What may be done to abate the fast accumulating load of guilt and infamy under which we must needs be whelmed if we sit supine? We put it to our brethren to meditate this subject, and to use the light and information they so commonly possess for the illumina-

tion of those among our men of rank and influence with whom, in the course of the holidays, so many of them are brought into contact. Let them remind these our leaders that the time is not long gone by, when defective legislation raised the price of a perishable human carcase to such a height, that it became a temptation to commit murder; and that at one time subjects were selected for the dissecting room in the streets, just as sheep and oxen are selected for the shambles in the fields.

HOW WILL THE INTERESTS OF THOSE WHO ARE NOW ABOUT TO ENTER ON THE STUDY OF MEDICINE BE AFFECTED BY THE PROPOSED MEDICAL PROFESSION BILL?

We have had various queries addressed to us to the above purport and effect. Our answer may be brief: In the sense in which the queries were addressed, nascent interests will in nowise be affected by it, should it become law,—the bill cannot be made retrospective; they who commence their medical studies now will be receivable into the profession under the conditions at present required.

There is another view of the subject, however, which may merit consideration. Would it be worth any man's while to enter upon a laborious and expensive course of preparation for a profession which it is proposed henceforth to throw open to all without any study whatsoever?—a profession in which the educated man would be liable to be jostled by the uneducated man; in which the licentiate in medicine and surgery might find himself disputing the ground with the chemist and druggist, the herbalist and cow-leech, the water-doctor (in more senses than one), the bone-setter, the travelling tooth-drawer, and the mountebank of the fair? Verily, we opine that it would not. We should only venture to recommend him to do so on the score of the conviction which still gains strength in our mind, that the profession of medicine will continue to be recognized in law as one whose members are distinguished by the extent and variety of their accomplishments; and that the public, as they are already protected against ash and sloe leaves under the title of tea, against putrid fish, unsound meat, &c., will be further protected against quacksalving and incompetency in every shape, by a brief and simple statute, which shall make it penal in any but a regularly educated man, who has given evidence of his general fitness for the duty, to practise medicine in any one of its departments.

THE MEDICAL PROFESSION BILL.

To the Editor of the Medical Gazette.

Sir,

As you have not declared war against Sir James Graham's Medical Bill, I trust that you will permit me to offer a few remarks upon some parts of it, with the view of pointing out to the profession to what extent it may really affect their interests. I am the more induced to take this liberty with my medical brethren, inasmuch as I have already given an "Exposition" of those laws which the present bill proposes to repeal.*

That I may not interfere with your own lucubrations, as I see that you purpose going over the whole of the bill, I shall at this time confine myself to that remarkable feature of it which you have already reviewed, viz. the abrogation of the Apothecaries' and all other acts bearing upon the exercise of the healing art, without the substitution of any clause against the practice of medicine or surgery by unqualified persons. In what I am about to say, I would premise that the introduction of a prohibitory clause against unlicensed practitioners need not affect the principle of the rest of the bill; therefore,

* *Lancet*, vol. 1 and 2 for 1843.

those who are in favour of such a clause may urge their views without denouncing the whole bill.

But let us first consider what the Apothecaries' Act (55 Geo. III.) has done in the way of preventing quackery; and in the second place, what probability there is that a prohibitory clause in the present bill would afford any protection to licensed practitioners.

I will first call the attention of my brethren to a "great fact," namely, that at present, any person, however ignorant, even who may not know the alphabet, may get the word "surgeon" engraved or painted on, or over, his door: may bleed; may set a limb, or pretend to do so; may prescribe and dispense medicine for the fever that may arise from any accident, or for any surgical disease whatever; may charge for doing so; may recover the amount in a court of law, as legally, to all intents and purposes, as any the most eminent surgeon may do. Now, under the proposed bill, not only will such a person not be able to recover any charge in a court of law, but moreover, any one pretending to be a surgeon, and who is not, is liable to fine and imprisonment. The clause states, "that every unregistered person who shall wilfully and falsely pretend to be, or take or use any name or title implying that he is registered under this act, shall be deemed guilty of a misdemeanor," &c. Of course, no one can be registered who is not a qualified practitioner. Is not this step in the right direction?

The Apothecaries' Act relates to England and Wales only: any one may practise in her Majesty's colonies without being qualified under the act; or may hold any public appointments without incurring the risk of a penalty.

It is true that the present bill does not go so far as to attach a penalty to those who may hereafter choose to give advice and medicine, but they will not dare to call themselves physicians, or surgeons, or licentiates; nor will they be eligible to any public appointments. Surely this is an improvement upon the present system.

The inconsistency attending the present laws with regard to licensing practitioners is well known. Not only is an English licentiate not entitled to practice in Scotland or Ireland, and *vice versâ*, but the London license of the English College of Physicians does not give its possessor the right to practise beyond the distance of seven miles round the metropolis; nor does the country license, on the other hand, confer the right of prescribing in London, or within seven miles of the same. The great majority of the physicians to our provincial hospitals and infirmaries, as well as those who practise privately, are illegal practitioners. As the law stands, no person has a right to practise as a physician in England unless he hold the license of the College of Physicians of London, or a degree from Oxford or Cambridge. These inconsistencies will be entirely remedied under the present bill, without materially affecting the interests of any of the bodies which now confer licenses; and without at all interfering with the interests of the present race of practitioners, who will be legalized under the bill by merely causing their names to be registered. This circumstance must prove a very great boon to the Scotch graduates, who form the great bulk of our provincial physicians; for, although the College has not interfered with them of late years, still it is not so pleasant to reflect that they are permitted to practise upon sufferance, as it would be to feel that they are doing that only which they have a right to do.

Now, what has the Apothecaries' Act done towards the prevention of quackery and unlicensed practice? In speaking of the operation of that act, I do not in any way intend to cast blame upon the Apothecaries' Company. The faults are in the act itself, and not in those who have been charged with its administration.

I am not acquainted with the exact number of prosecutions of unlicensed practitioners instituted under the act, but I know that it has been very small. It is also well known that some of these, if not the majority of them, were against members of the College of Surgeons. Even for this I do not blame the Company, because if informations were laid before them against such persons they could not well avoid prosecuting. The act has been in operation just nine-and-twenty years: about a dozen, perhaps, unlicensed practitioners have been prosecuted under it: quackery and unlicensed practice are as rife as ever both in town and

country: that is the true state of the case.

The Apothecaries' Act has been thus far essentially useful in improving the education of the general practitioner. This is a fact which no one can reasonably dispute. But so far as the prevention of quackery is concerned, if it were ever intended to interfere with quackery, it has proved a signal failure. The wording of the act in relation to unqualified practitioners is stringent enough: how is it, then, that it has failed in accomplishing its object? How was it that the College of Physicians, for centuries, armed with the most stringent acts of parliament, entirely failed in accomplishing the same object in the metropolis? The truth is, that the object cannot be accomplished by the power of an act of parliament. The history of centuries proves that to be the case.

All the good points of the Apothecaries' Act are embraced in Sir James Graham's bill. The rest of it has outlived its day. It has been useful in its time; but the same usefulness may be continued in a better, more simple, and by far more respectable way as regards the profession.

In legislating for ourselves, we are bound to take into consideration the interests of others. It is evident that quackery has been legalized by the granting of patents for the sale of nostrums. There is a very large capital invested in such property in this country, and it is difficult to conceive how quackery can be eradicated while patent medicines are allowed to be sold. If we defer our Medical Reform until the time arrive when secret nostrums are prohibited from being sold, we shall certainly wait until the day of doom, so far as we are concerned.

There is also another class to be considered, who have maintained a certain privilege for a considerable number of years, namely, the retail chemists and druggists. These persons claim the right of giving "advice over the counter," and have exercised it in spite of the Apothecaries' Act. The present Bill will neither increase nor diminish their right in that respect; but a prohibitory clause, if acted upon, would affect their interests in a way to render it almost impossible for them to carry on their trade. This class, therefore—a powerful one—would naturally and justly raise a cry against a bill containing such a clause.

But the worst thing of all would be, and the most detrimental to the interest of the profession, that the public generally would cry out tyranny against us, if we attempted to enforce the provision of a prohibitory clause. Such a clause, unless rigidly put into execution, would be worse than useless, because the profession would have all the discredit of it, without any benefit from it. The public are jealous of having their ancient privilege of being cheated touched. They may be considered foolish for being so, but the remark is not the less true for that. They think that they "have a right to do as they like with their own" health. The poor will go into Mr. A. or Mr. B.'s shop for two pennyworth of his aperient or his antibilious pills, in spite of all acts of parliament; and the young gentleman, after passing, feeling the claret or gin-twist of the previous evening lying rather uneasy on his stomach, will turn in for a dose of Mr. H.'s prime bitters. Can you prevent such a practice by an act of parliament? Both rich and poor swarm after homœopathists, hydropathists, mesmerists, and all descriptions of quacks. The question is not whether they act wisely in doing so, but whether you can do any good by attempting to prevent them by the enforcement of a law; whether, by endeavouring to force the provisions of such a law, we should not place ourselves in a much worse position, by having the public cry against us.

It must also be taken into consideration, that juries would not convict under an obnoxious law, however clear the evidence; so that it soon would become a dead letter, as the Apothecaries' Act did so far as the prevention of quackery is concerned.

In truth, notwithstanding the great improvements of modern times, medicine is still a "conjectural art" to a great extent. If a patient, whether poor or rich, has given eminent, regular, and licensed practitioners every opportunity of doing him good, and they fail to do so, it would be hard to deprive him of the hope and consolation of sniffing a millionth part of a grain of ipecacuanha into his nose, or to twist a wet sheet round his body, or to have a certain number of unmeaning figures cut in the air before his face by the passes of the mesmeriser's hands.

We even find not a few men connected with our profession who, at a former period, bore some reputation, take up with these crotchets. Whether such men, or such professors in general, are knaves or fools, or either, or neither, is not the question at present: they at any rate prove that the non-medical public are not the only promoters and encouragers of dupes and victims of quackery.

The provisions of the new bill appear to me calculated to do much more good towards the discouragement of illegeal practice than a direct prohibitory clause would be. The facts that no person will be qualified to hold any public appointment without being registered (which, of course, is the proof of his qualification); that his certificates or evidence in courts of law shall not be received as those of a medical practitioner; that no person not registered shall be entitled to recover at law any charges for attendance or medicine, either in medical or surgical cases—all these form as strong a defence against the intrusion of interlopers into our profession, as the public are at present ready to concede to us.

I conclude by observing, that the insertion or non-insertion of a prohibitory clause need not invalidate the rest of the bill. I have stated the reasons which occurred to me against the expediency of such a provision; others may have stronger reasons to adduce in its favour; but the profession may rest assured of one thing, if they reject the present measure, it will be many a day before they will have the like of it offered to them again.

I am, sir,
Your obedient servant,
SCRUTATOR.

August 18, 1844.

PARLIAMENTARY PAPERS
RELATIVE TO THE
COLLEGE OF SURGEONS,
viz.

COPIES OF TWO LETTERS, *from Sir James M'Grigor and Sir William Burnett, on the Nomination of a further number of Medical Officers in the Army and Navy to the Fellowship of the College of Surgeons; together with the Observations of the Council explaining the Principles on which they proceed in the preparation of the Schedule of Fellows of the Royal College of Surgeons.*

COPY OF A LETTER *addressed, on the 31st day of July, by the President of the College of Surgeons, to the Secretary of State for the Home Department, on the subject of the* CHARTER *lately granted by Her Majesty to the Royal College of Surgeons of England, together with its Enclosure.*

[Ordered by the HOUSE OF COMMONS to be printed, 6 August, 1844.]

(*From* SIR JAMES M'GRIGOR, Bart.)

To the President and Council of the Royal College of Surgeons, &c. Lincoln's-Inn Fields.

Army Medical Department,
27 February, 1844.

Gentlemen,—I have the honour to submit to you the names of 75 medical officers of the army, whom I beg to transmit to you as in my opinion worthy of the honour of "Fellows of the Royal College of Surgeons of England," and whom I recommend accordingly for the approval of the Council.

I have, &c.
(Signed) J. M'GRIGOR,
Director-General of the Army Medical Department.

(Here follows a list of the names.)

(*From* Sir WILLIAM BURNETT.)

To the President, Vice-Presidents, and Council of the Royal College of Surgeons of England.

Department of the Inspector-General of Naval Hospitals and Fleets,
Admiralty, 24 Feb. 1844.

Gentlemen,—I observe, by the list of fellows lately published, to the number of 300, that the Council of the Royal College of Surgeons of England have departed from their original intention, as communicated by Mr. Guthrie, the late President, who, by desire of the Council, addressed a letter to me, explaining privately its objects, and requesting the names of the medical officers of the navy of the inspectorial rank, and who might be members of the College, to be associated as fellows with the surgeons and assistant-surgeons of hospitals, and the teachers of anatomy and surgery throughout the country, together with the older members of the profession not practising pharmacy.

That the Council has departed from its original intention appears by its having placed on its list of Fellows many young gentlemen, members of as late a date as 1837, and several others now practising as apothecaries; whilst it has totally overlooked all the surgeons of the navy, many of whom are very distinguished officers and members of the profession. This having been done without any reference to me, and being at variance with the practice observed in the case of those bearing the rank of inspectors and deputy-inspectors, whose names I beg to insert, viz.;—

Henry Parkin, late Marine Barracks, Woolwich; William Rae, now Melville Hospital, Chatham; William Conborough Watt, now Naval Hospital, Malta; Robert Armstrong, now Naval Hospital, Plymouth: these gentlemen all holding the rank of deputy-inspector of naval hospitals and fleets.

Under these circumstances, I think it but an act of justice to the naval medical service to enclose a list of surgeons of the navy, all of whom are highly deserving officers, and to request that the names of these gentlemen may be placed on the second list of fellows, to be made out before the expiration of one year from the date of the charter, viz. 14th September, 1843, as directed by clause 4 of the charter in question; observing that there are many other surgeons, who no doubt are fully deserving of being included in the list of fellows, but whose names I have omitted, simply because I have no personal knowledge of the parties, and the books of my department do not afford sufficient records to enable me to speak confidently as to their characters.

I have also omitted the whole of the assistant-surgeons, leaving it to the Council to determine whether these gentlemen should not be included as fellows as well as the surgeons, many of these assistant-surgeons being gentlemen of high professional qualifications and attainments.

I beg likewise to draw the attention of the Council to clause 8, which gives precedence to the first list of 300, to the great prejudice of the surgeons of the navy, who having been omitted in this list, can now be included in the second list only; and also to request that this error may be represented to the Secretary of State, so that by a supplemental charter, or in some other way, the precedence may be allowed in both lists, and each fellow's name stand according to the date of his diploma as a member: this act of justice being due to the officers of the public service.

I would further draw the attention of the Council to clause 5, directing that no person shall be admitted a fellow until after he shall have become 25 years of age; and, at the same time, to enclose a copy of the regulations for candidates for naval medical appointments, by which it will be seen that these gentlemen are superannuated at the age of 24, while these regulations having been formed on experience, could not be altered with advantage to the public, and yet as most of these gentlemen, either immediately on their admission into the service, or very shortly after, are sent to foreign stations, where they remain some years, this new regulation of the charter, made without any reference to them, effectually precludes the probability of those officers of the navy becoming fellows for many years after the time appointed; and from the precedence granted to fellows according to the date of their taking the fellowship, consequently prevents officers of the navy from the probability of their having a seat in the Council, or of attaining any of the offices of the College of either honour or emolument.

I have, therefore, to request the Council will be pleased to recommend to the Secretary of State, that this claim granting precedence according to the date of fellowship, should be altered, and that the fellows should hereafter rank as in the first list, according to the date of their diploma as members of the College; or that all precedence should be abolished, the fellows being arranged alphabetically, and made eligible for seats in the Council at any period after 15 years, or such number of years standing as may be deemed advisable; without one of which, or some other similar alteration, great injustice must be done to the medical officers of the navy.

I beg to state distinctly that I have no desire that naval medical officers should evade any examination which others undergo, and I am of opinion that as these gentlemen are twice examined, and approved by the College, once as assistant-surgeon, and again before they become surgeons, they ought, if such examinations be really worth any thing, to be admitted fellows after ten years of service and of practical experience, on their certified merits, without further trouble, unless the Council mean to repudiate the diploma they now grant, in which case it may become a question as to whether it shall remain a qualification which the medical officers of the navy ought to be ordered to obtain or otherwise.

I take this opportunity of observing, that it is my invariable practice to give the assistant-surgeons of the navy the means of renewing their studies, and preparing themselves for their second examination, by granting them leave of absence for that purpose; and that, therefore, if they do not present themselves to the Court of Examiners in such state of preparation as to enable them to pass a good and creditable examination, such deficiency has been occasioned by their own neglect, and not by any want of indulgence from the public service. I therefore sincerely hope that the Court will, on every occasion, reject these gentlemen, unless they prove themselves fully qualified.

I have, &c.

(Signed) W. BURNETT,
Inspector-General of Naval Hospitals and Fleets.

(Here follows a list of the names.)

[There is next a long letter from Sir Wm. Burnett on the education and qualifications required of gentlemen embracing the medical

service of the Royal Navy, which we shall probably make use of on another occasion.

After which follows a letter from John G. Andrews, Esq. late President of the Royal College of Surgeons, explanatory of the principles which had guided the Council of the College in selecting members for the fellowship; and a second letter from the present President, Sir B. C. Brodie, Bart. being a statement relating to the charter lately granted by her Majesty to the Royal College of Surgeons of England, and an iteration of the principles on which they had acted. Both of these have already appeared in the pages of the GAZETTE, and therefore need not be reprinted here.—ED.]

MIDWIFERY STATISTICS,

FORCEPS CASES.

To the Editor of the Medical Gazette.

SIR,

I HAVE read with much interest and attention the statistical summary of obstetric cases which occurred in the eastern district of the Royal Maternity Charity, under the superintendence of Dr. F. H. Ramsbotham, from 1832 to 1843 inclusive, as lately published in your valuable journal, and beg to remark, that it appears from the following abstract, of 26,776 women, only 34 were delivered by the forceps, *being less than one in every 787 cases!* Can this be correct?

I am, sir,

Your obedient servant,

JOSHUA WADDINGTON, M.R.C.S.
Consulting Surgeon to the Royal Sea-Bathing Infirmary.

Marine Terrace, Margate,
August 2, 1844.

Year.	Number of Women.	Long forceps.	Short forceps.
1832	2344	2	0
1833	2619	not one!	not one!
1834	2447	1	3
1835	2311	1	2
1836	2268	0	2
1837	2140	1	2
1838	2136	0	3
1839	2079	1	2
1840	2173	2	4
1841	2167	not one!	not one!
1842	2090	0	1
1843	2002	1	6
Twelve years.	26,776	9	25

FORMATION OF FIBRINE.

To the Editor of the Medical Gazette.

SIR,

IN a late number of the MEDICAL GAZETTE, in reviewing my paper on Fibrine, published in the "Proceedings of the Philosophical Society of Glasgow," you ascribed to me the statement that the globules of pus are of less size than those of blood. No such general statement is contained in my paper, as you will see by referring to it. My statement relates solely to the globules of pus originating in the way I described. The words "*thus originating*" have obviously been introduced to guard against the misconception into which you have fallen.

Now, without speaking of other kinds of pus, I shall merely say, that if you will take the trouble to examine for yourself the beautiful gobules of the blister liquid while yet separate, and during their aggregation into a coagulum, and trace the steps by which, under other circumstances, they are converted into pus globules, I feel persuaded that you will find reason to agree with me, both as to this and to several other points on which you have expressed a difference of opinion.—I am, sir,

Your obedient servant,

A. BUCHANAN.

13, Moore Place, Glasgow.
Aug. 15, 1844.

[We are sorry for the error into which we unwittingly fell, and have pleasure in correcting it through Dr. B.'s ownnote.—ED.GAZ.]

MORTALITY OF THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, August 10.

Dropsy, Cancer, Diseases of Uncertain Seat	95
Diseases of the Brain, Nerves, and Senses ..	153
Diseases of Lungs and Organs of Respiration	211
Diseases of the Heart and Blood-vessels	20
Diseases of Stomach, Organs of Digestion,&c.	82
Diseases of the Kidneys, &c.	4
Childbed	2
Paramenia	0
Ovarian Dropsy	0
Disease of Uterus, &c.	4
Arthritis	0
Rheumatism	1
Diseases of Joints, &c.	3
Carbuncle	0
Phlegmon	1
Ulcer	0
Fistula	1
Diseases of Skin, &c.	0
Old Age or Natural Decay	47
Deaths by Violence, Privation, &c.	15
Small Pox	46
Measles	14
Scarlatina	80
Hooping Cough	12
Croup	5
Thrush	10
Diarrhœa	62
Dysentery	4
Cholera	5
Influenza	0
Ague	0
Remittent Fever	2
Typhus	39
Erysipelas	8
Syphilis	1
Hydrophobia	0
Causes not specified	7
Deaths from all Causes	934

WILSON & OGILVY, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, AUGUST 30, 1844.

REPORTS,

By H. Fearnside, M.B.,

OF

CASES TREATED IN UNIVERSITY COLLEGE HOSPITAL.

(For the London Medical Gazette.)

Extensive hypertrophy and dilatation of both ventricles of the heart, but of the left in particular; regurgitant (and obstructive?) disease of the mitral valves; great pulmonary congestion; bronchitis; disease of the liver; albuminous state of the urine; death, preceded by anasarca or ascites.

Mary Abercrombie, æt. 18, admitted into University College Hospital, under Dr. Williams, May 27th, 1843. A girl of short stature, and ordinary conformation; a domestic servant. She was born and has always resided in London, and generally in open and healthy parts of the town; she has never suffered from privation of any description. Her mother died of phthisis; her father is still living. Neither of her parents have suffered from rheumatism, nor any affection of the heart; but she has a brother (æt. 12), who has some cardiac disease, but he never had rheumatism.

Her health has always been rather delicate. When about 7 years of age she had a severe attack of rheumatism, which confined her to bed for several weeks. She is not aware of the existence of any causes producing the disease. About a year afterwards she had an attack of chorea; but, with the exception of an inflammation of the mouth, attended with the formation of abscesses, and considerable hæmorrhage on one occasion, her health was tolerably good until about two years ago: during this time she had no palpitation of the heart, nor any other symptom referrible to that organ. About the period mentioned she had a second attack of rheumatism, which she attributes to violent exercise, and getting wet. She was for a considerable time a patient at the Middlesex Hospital; she suffered much from palpitation of the heart, to relieve which leeches were applied over the cardiac region. She recovered slowly from this attack; and before her health was re-established, the disease returned again in a severe form, and attended with much palpitation of the heart, and severe pain in the left side of the chest. For the relief of these symptoms she was admitted into University College Hospital on Nov. 3d, 1841, under Dr. Williams: at that time a loud blowing murmur was heard with the first sound of the heart, and most loudly below the left breast, being indistinct at the top of the sternum. She left the hospital, being considerably relieved, after the lapse of about a month. After this time she began to suffer from dyspnœa more frequently and severely than she had previously done, and the palpitation of the heart was induced by slighter causes; but these symptoms were kept in abeyance for several months, during which her employment (lace manufacturing) was of a sedentary character; her general health also improved, and she gained in flesh and strength. This amelioration in her condition induced her again to return to service; but in a short time the old symptoms returned, and occasioned much suffering. She had also pain in some of the joints for a considerable time before an acute attack of rheumatism was developed. She gradually became worse; other joints were implicated, so that in the beginning of last August she was compelled to seek relief in St. Bartholomew's Hospital, where she remained about three weeks. From this time she remained in an enfeebled condition, liable to frequent and violent fits of palpitation and dyspnœa on any exertion; so that she was unable to take another situation. In December she had a fifth attack of rheu-

matism, which appears to have come on gradually, like the preceding one, and without any obvious exciting cause. She was at this time an inmate of the Middlesex Hospital for about three weeks. After her discharge she remained debilitated; began to suffer from cough, especially at night, or early in the morning; had a constant sense of oppression about the chest; frequent palpitation of the heart, and much dyspnœa, especially at night. These symptoms continued and increased until March, when she was again admitted into the Middlesex Hospital. The measures there adopted afforded her considerable relief, but since her discharge the dyspnœa and palpitation of the heart have again become very distressing; she has also suffered from giddiness, throbbing of the vessels of the neck, disturbed sleep, and loss of appetite.

Present state.—She complains of a constant feeling of weariness and languor; the surface is warm, and the hands moist; there is some but not any great amount of emaciation; there is no œdema of any part of the body. She complains of some headache, and of giddiness upon sitting up; she sleeps tolerably, but has disturbed and frightful dreams sometimes; she has frequently the sensation of scintillations, or muscæ volitantes, before the eyes, as well as tinnitus aurium. The temporal and large arteries of the neck occasionally throb violently. During a "fluttering" of the heart, as she terms it, the head is particularly affected with giddiness. The face is flushed; the lips rather livid; the eyes bright and clear; and the countenance animated.

She has no pain about the chest; respirations 28 per minute; the attacks of dyspnœa generally supervene during the night; she has a slight cough, but expectorates little.

There is no difference in the movements or vocal fremitus upon the two sides of the chest. The upper and anterior part of the chest is not very resonant on percussion upon either side; and in the same situation the inspiratory murmur is prolonged and rough, and that accompanying expiration more distinct than usual. Posteriorly, both sides appear to be somewhat dull on percussion, and the left more so than the right. A muco-crepitant rhonchus is heard over both scapular regions, and also over the right infra-scapular region. Over the middle and lower part of the left side the inspiratory murmur is rather harsh.

She frequently experiences a sense of fluttering, as well as palpitation of the heart. She occasionally has a sense of numbness in the little and ring fingers of the left hand, and this sensation sometimes extends up to the elbow. The impulse of the heart is much stronger, and more extensive than natural, almost the whole front of the chest appearing at times to be elevated by it; it is very perceptible over a considerable part of the left side of the chest; also in the epigastrium, and for some extent to the right of the sternum. The cardiac dulness on percussion commences on the third intercostal space, and reaches to the margin of the ribs inferiorly; it extends also over a considerable extent of the left lateral surface of the chest, over the inferior two-thirds of the sternum, and for a couple of inches to the right of that bone. A loud murmur accompanies the first sound of the heart, and is most distinctly heard over the apex of the organ, less clearly over the base, and inaudible over the blood-vessels. The second sound of the heart is very distinct and clear opposite the base; but in carrying the stethoscope towards the apex, it becomes less distinct, and opposite that point it sometimes seems to be accompanied by a prolongation of the first murmur, and even succeeded by a faint morbid sound. There occurs not unfrequently a reduplication of the second sound.

The pulse at the wrist is exceedingly irregular, often imperceptible; and in frequency it averages 40 to 50 per minute. The heart's contractions are also irregular; sometimes there is an intermission, then several pulsations occur in rapid succession. The number of the heart's contractions is about 96 per minute.

The tongue is covered with a thin pale fur; no thirst, and but little appetite. She is frequently sick, especially towards the evening; the bowels are rather irregular in their action. The liver extends for about three inches below the margin of the ribs, and rises to about the usual height into the thorax. The spleen is not enlarged. The urine is acid, specific gravity 1020, and not albuminous. She is at present menstruating, the catamenia having returned about four days ago; previous to this time they had been absent for nine months; they appeared first about twelve months ago.

Treatment, and subsequent progress of the case.—Local depletion was practised over the cardiac region by means of leeches, and a combination of blue-pill, hemlock, digitalis, and camphor, directed to be taken three times daily; and the patient was placed upon middle diet. During the first fortnight after her admission her state varied much, but there was a decided improvement upon the whole; the action of the heart became less violent and tumultuous; the number of the pulsations at the wrist gradually came to correspond with those of the heart; and the dyspnœa, though often very distressing, was yet less constant in its recurrence, and its attacks less severe. After the combination of remedies mentioned had been

taken for a short time, it was omitted, and an alkaline draught, containing Sp. Æth. Nit. et Sulph. aa. ʒss., was prescribed. On June 10th the patient appeared to have taken cold; she had a frequent cough, with expectoration of tenacious semi-transparent mucus. She complained much of a sense of oppression about the chest; the dyspnœa became augmented; the respirations 36 per minute; pulse 108, and there was some heat of skin. The muco-crepitant rhonchus, which had previously ceased to be audible, now returned, and was heard over the greater part of the right side of the chest. This catarrhal attack, however, subsided in a few days, under the use of small (quarter of a grain) doses of tartarised antimony. The urine underwent some interesting changes at this time; before the attack its specific gravity was about 1020, and it contained no albumen. As the febrile accession declined, its specific gravity gradually rose to 1035; it contained an excess of saline matter, both phosphates, sulphates, and lithates, but especially of the last, which were copiously deposited as the fluid cooled. There was also a large excess of urea, and a small quantity of albumen then for the first time made its appearance, and was never subsequently found absent when the urine was examined, but, on the contrary, its proportion gradually increased. From this time there were great variations in the state of the patient; sometimes she remained free from palpitation of the heart, or dyspnœa to any extent, for a considerable time, and even passed many days in comparative comfort: at these times her appetite was good, and the improvement in all the functions very obvious. But such intervals were sooner or later succeeded by a return of the violent and irregular action of the heart; these paroxysms continued for one or several hours, were attended with great dyspnœa, headache, giddiness, and other indications of irregular circulation of blood through the brain; they were usually succeeded by great faintness and prostration of strength, and not unfrequently by sickness and irregular action of the bowels.

The physical signs relating both to the heart and lungs remained nearly as on the patient's admission, except that after an attack of the palpitation of the heart, the increased pulmonary congestion occasioned by it was rendered obvious by an extension of the space over which the liquid rhonchi were audible. Various measures were adopted for the patient's relief, and most of them were attended with temporary success: local depletion, the application of blisters over the region of the heart, sedatives, narcotics, tonics, diuretics, and purgatives, were by turns employed alone or in combination. She left the hospital somewhat relieved in the early part of August, and at that time ceased to be under the writer's observation. The following additional particulars are taken, with Dr. Williams's permission, from the hospital case-book.

She was readmitted Sept. 6th, suffering from violent palpitation of the heart, and a sense of great oppression about the chest; extreme difficulty of breathing, amounting to orthopnœa; anasarca of the lower extremities, and an enlargement of the abdomen from the presence of fluid in the peritoneal sac. The pulse was exceedingly weak and irregular. Leeches were applied over the cardiac region; a combination of blue-pill, squill, digitalis, and hemlock, was given thrice a day; and a diuretic drink, containing bitartrate of potash and gin, allowed to be taken *ad libitum*. These measures, however, were quite ineffectual; the dropsy increased; she gradually became worse, and died on September 24th.

Examination of the body 30 hours after death.—Exterior: All the extremities, and the lower ones in particular, were immensely swollen; there was a great number of small dark spots (purpura) scattered over the face and chest. The conjunctivæ were deeply tinged yellow, from infiltration of serum.

Chest.—A small quantity of serum was found in the pleural sacs. The *lungs* were engorged with blood, and of rather less than the usual volume. A mass of hard calcareous matter, of the size of a chestnut, was found at the root of the right lung.

The *heart* presented a very large extent of surface uncovered by the lungs, and extended for two inches or more beyond the right border of the sternum; the organ was of enormous size, and much distended with blood. There was a little yellow serum in the pericardium; the membrane was transparent. The walls of the left ventricle were thickened, and its cavity much dilated. The endocardium was transparent. The aortic valves were somewhat thickened, and one of them was diminished in depth. The posterior laminæ of the mitral valve was peculiarly contracted; it was thickened, indurated, and formed a semicircular, immoveable ridge, projecting in opposition to the current of blood; the chordæ tendineæ of this lamina were also thickened, and agglutinated together.

The walls of the right ventricle were thick, and its cavity large; the valves were healthy.

Abdomen.—The peritoneal sac contained a large quantity of serum.

The *liver*, on a section, presented a mottled appearance, from the existence of a white granular deposit in its substance.

The *kidneys* had the normal size and appearance.

[To be continued.]

A CASE OF FEVER

IN WHICH ANIMALCULA WERE FOUND IN LARGE NUMBERS IN THE CONTENTS OF THE STOMACH, AND IN THE BLOOD.

By S. J. Goodfellow, M.D.
Resident Physician, London Fever Hospital.

(For the Medical Gazette.)

As my only object in this communication is to point out the unusual circumstance of animalcula being present in the circulating fluid, and in the contents of the stomach, in the human subject, I shall confine myself, in stating the case, to a very cursory outline of the symptoms, and only allude to the treatment so far as to show that the animalcula were altogether unaffected by the internal remedies administered. As I had but little to do with the treatment I have an additional reason for not alluding to it more at length than for the purpose just mentioned.

Case.—Edward Clark, æt. 17, a labourer, of tolerable stoutness of body, was seized with the usual symptoms of typhus on the 8th of last month. When I first saw him (on the 10th), he complained of some pain and sense of tightness across his chest; his breathing, however, was easy, and of natural frequency; no morbid sounds could be detected on auscultation or percussion, nor had he any cough. His skin was hot, free from any eruption; tongue coated with a greyish fur, moist; considerable thirst; no nausea, but entire absence of any appetite; bowels had been moved once or twice daily without medicine; abdomen free from tenderness or distension; pulse about 96, of tolerable power. On the following day the pain had left the chest, and no untoward symptom was observed until the evening of the 12th (4th day of the disease), when he was seized with pain in the right hypochondrium, which was soon relieved by the remedies prescribed, and he again appeared to be progressing favourably; but on the 16th he became heavy and restless, and in the evening of this day was seized with vomiting of a thin blackish fluid: his powers at this time were much depressed, and the pulse about 100, small and jerking. The vomiting and prostration continued until his death, which took place on the 22d.

On the 18th a considerable swelling was perceived around the parotid of each side, which continued, during his life, slowly to increase, to remain very hard, and to manifest no tendency to suppurate.

On the 20th, an eruption, resembling somewhat in appearance that of variola, was observed on the entire surface of the body, especially on the arms and upper part of the trunk; but it was not variolous, for it wanted the indurated character, and many other peculiarities of that eruption in its papular stage; and in this opinion I am confirmed by my friend Mr. Marson, the Resident Surgeon of the Small Pox Hospital. It was probably a peculiar form of erythema—a modification, perhaps, of the papular erythema. It never underwent any change from a few hours after it first made its appearance up to the period of his death, except becoming a shade or two darker in colour.

The internal remedies were castor oil, common saline mixture, calomel and opium, disulphate of quinine, wine and brandy.

On examination 48 hours P. M., no lesion of structure in any organ, sufficient to account for death, could be detected. There was no disease whatever in the glands of the ileum. As usual, the vessels in all the mucous surfaces were much congested, as was the whole nervous system; the blood was fluid, and of a very dark colour. Some black patches in the lining membrane of the stomach, caused, no doubt, by the strongly acid contents of this organ upon the blood contained in the vessels.

On examining the fluid ejected from the stomach during life, and on the day following that on which the vomiting commenced, by the aid of the microscope, myriads of animalcula were observed in very active motion. As well as one could measure these minute organisms their length appeared to vary from $\frac{1}{5000}$th to the $\frac{1}{3000}$th of an inch, and their diameter (which I am convinced was the same throughout their length) from about $\frac{1}{40000}$ to about $\frac{1}{2000}$th of an inch. Nothing was observed by which I could distinguish the one extremity from the other, the head from the tail, although sometimes one extremity appeared certainly

larger than the other; but close and constant observation enabled me to discover that this appearance was owing to one extremity being a little out of focus, for when the whole of one animalcule was in focus no difference could be detected. Their movements, when active, closely resembled those of the small naiades so frequently seen in river-water after rain, but when they became sluggish from the inclosure of the animalcula between slips of glass for several hours, they resembled those of the larvæ of the common meat fly, *musca vomitoria*. The fluid ejected after every attack of vomiting was found to contain the animalcula in as large numbers as when it was first examined; they were also found in the sanguineous exudation from the lining membrane of mouth and nostrils. The vomited matters also contained a considerable quantity of altered blood corpuscles, epethelial cells, and a small quantity of mucus, but no trace of bilious admixture. Similar animalcula were observed in blood taken from the capillaries of the skin, but in such small numbers that they escaped my notice for several examinations. Repeated observation, however, ultimately convinced me of their existence in the blood taken from the capillaries during life. At the autopsy, 48 hours P.M., they are still seen in large numbers in the fluid contents of the stomach, and in the blood taken from both sides of the heart, and the aorta, carotid, venæ cavæ, pulmonary artery and veins, brachial artery and veins, and the femoral artery and vein. They were also found, during life, in the fæces, but they were never seen to exercise any movement in the excrement. None could be detected in the gall-bladder or biliary ducts, in the pancreatic fluid, in the urine, or in the frothy mucus in the large bronchial tubes. They were also seen by Dr. G. O. Rees, in the stomachal fluid which I submitted to his examinination during the life of the patient; and by Mr. Lealand, both in the matters taken from the stomach, and in the blood after death, and both entertained no doubt of their existence, or of their animal nature. With respect to the manner in which they got into the blood-vessels I will not hazard an opinion; but this I am inclined to think, that they got into the stomach, with the blood corpuscles, and were not introduced into the stomach with the food or medicine, and from this organ into the circulation. It will be seen from their admeasurement that their size permitted their traversing freely the smallest capillaries, and from whatever surface any sanguineous exudation was thrown out there also could these minute animalcula easily be discharged. This was the case in the sanguineous exudation from the mouth and nostrils. Most probably *similar animalcula*, at all events bodies of an animal nature, have been observed in the blood of reptiles, fishes, and even one mammal—the dog*. Although MM. Gruby and Delafond describe the entozoon which they discovered in the dog as having a larger and a smaller extremity, I am inclined to think that this apparent difference between the two extremities might be owing to the cause above alluded to. In a subsequent communication to the Academy these gentlemen state that they have examined 250 dogs, and have found the filariæ in the blood in five; no apparent difference in the health of those in whom they were found being perceptible.

August 15th, 1844.

ON THE TRANSFORMATION OF PUS CELLS INTO A MUCOUS OR FIBROUS TISSUE;

AND ON THE COAGULATION OF THE BLOOD.

By William Addison, F.L.S.

[Continued from p. 692.]

Exp. 8.—Half a tumbler glassful of pus was kept for five days; at the end of this period it was perfectly fresh; there was no smell arising from it, nor was there any visible or perceptible change. A thin stratum of clear, amber-coloured, and saline liquid floated above the cells, which had subsided to the bottom of the glass. When the pus was first withdrawn, it formed with liquor potassæ and acetic acid the fibrous and mucous tissues before mentioned; but I found that it gradually lost this property, and at the end of five days, although liquor potassæ rendered the pus transparent, yet it had none of the plastic properties it displayed at first.

* London Physiological Journal, No. 1. Van Voorst, Paternoster Row.

This result shewed that the pus cells had undergone some alterations, not detectable except by the reaction of the alkali; they were incapable, at the expiration of five or six days, of forming the mucous or fibrous tissues which they did at first: hence the necessity of using freshly secreted or *newly excreted* pus for the purposes of the foregoing experiments.

Exp. 9.—A large indurated gland in the breast of a young woman, who had shortly before been suckling, suppurated. At the end of several days the abscess was opened, and a quantity of pus discharged. This pus had not the dead white, or cream-like, aspect of the former; it was more muco-purulent; it had a more plastic quality, and could be drawn out into short strings. On examining it by the microscope, there were many amorphous granular masses, myriads of isolated molecules, fibrinous filaments, and oil globules found in it. After standing a few hours the pus became gruel-like, and many more cells were found ruptured and disintegrated; those that were entire were seen to have from three or four to five or six very minute oil globules in their interior. On adding liquor potassæ to this pus, although it somewhat increased its plastic qualities, it did not produce the elastic fibrous tissue to the extent before described; and I concluded that the pus and pus cells in this case were a nearer approach to the secreting cells of the tissue, and therefore some stages further removed from the character of colourless blood cells than in the former case, where the pus was daily thrown out in large quantities.

The following are the conclusions to be drawn from the preceding experiments. *Pus consists of a fluid element, and colourless cells. The cells may be ruptured or unruptured* (the appearance and qualities of the pus will vary according to the proportion of ruptured to unruptured cells). *The ruptured cells discharge molecules and a plastic element; the constituents of the plastic element are fibrin and albumen.* Hence the following synopsis of the composition and changes in pus.

- Pus
  - Limpid saline fluid
  - Colourless cells
    - Unruptured
    - Ruptured
      - Molecules
      - Plastic element
        - Fibrin
        - Albumen.

If the fibrinous and albuminous constituents remain united after the rupture of the cells, they form a transparent mucous or fibrous tissue, which may have few or many unruptured cells incorporated in it. If the fibrin visibly fibrillates, so as to constitute a network, it forms *flocculi*, flakes, clots, and false membranes, which entangle molecules and unruptured cells; while the albuminous fluid constituent, being added to the original fluid, remains as a serum or sero-purulent fluid.

On the Coagulation of the Blood.

Blood, immediately on its discharge from the human body, drops like water; it cannot be drawn out into strings, nor does it evince those plastic qualities which it afterwards gradually exhibits, and which go on increasing up to the coagulating point*. Blood, therefore, circulating in the living vessels, consists of a limpid fluid and the cells. The cells are of two kinds, the red, and the colourless. The colourless cells are highly organized living forms, raised probably to an uniform point of vitality, containing in their interior molecules and a plastic element, the latter having two constituents, fibrin and albumen: wherefore the following exhibits the composition of the circulating blood:—

- Blood
  - Blood fluid
  - Red cells
  - Colourless cells
    - Molecules
    - Plastic element
      - Fibrin
      - Albumen.

[* "Liquid when blood is drawn, coagulable lymph gradually becomes, first *viscid*, and afterwards solid. In the viscid state, as I have frequently observed, when it is still transparent, it has the *tenacity of mucus*, and admits of being drawn out in fibres and bands. This viscidity which coagulable lymph acquires in passing from a liquid to a solid form has not, that I am aware, been noticed by authors."—*Researches Anatom. and Physiol. vol. 2, p. 239.*—Ed. Gaz.]

Fibrin and albumen are the two constituents, or the two forms of the plastic element; the plastic element and the molecules are the constituents of the colourless cells.

But the great change of temperature, the sudden exposure to air, and rude shocks, to which blood is subjected on its withdrawal from the living vessels, ruptures many of the colourless cells, and the plastic element and molecules from their interior mingling with the blood fluid, produce the *liquor sanguinis*. When the colourless cells are relatively numerous, the liquor sanguinis floats as a colourless stratum at the surface of the blood.

In a short time after the formation of the liquor sanguinis, the fibrin fibrillates or coagulates, forming a net-work or tissue, which entangles in its meshes the molecules and unruptured cells, forming the *clot;* while the albumen or albuminous fluid, added to the original fluid, constitutes the *serum*.

Hence, there are two distinct events upon which the coagulation of the blood depends: the first is the rupture of the colourless cells, and the formation of the liquor sanguinis; the second is the fibrillation of the fibrin producing the clot and serum (*vide* Synopsis, &c.) Any circumstance interfering with, or preventing either of these events, will interfere with or prevent the coagulation of the blood.

Now the withdrawal of colourless cells from the current of the blood, the incorporation of their contents with the tissues, and the fibrillation of fibrin, are essential stages in the process of nutrition. The coagulation of the blood is an actual transformation from blood to tissue; the events or changes, and their results, are so many stages of nutrition going on before our eyes, and the experiments I have related (p. 244, second series of Experimental Researches), is "a glaring instance" or "a demonstration" of the progress of these stages.

SYNOPSIS OF THE COAGULATION OF THE BLOOD.

Blood circulating in the living vessels.	First event.	Blood withdrawn from the vessels and prior to the second event.	Second event.	Final Result.
Blood fluid Colourless cells Red cells	Rupturing { Molecules / Plastic element { Fibrin / Albumen	Blood fluid Molecules. } Liquor sanguinis Fibrin . Albumen . Red cells (unruptured) Colourless cells	{ Fibrin, fibrillating + molecules, red and unruptured colourless cells Albumen, in solution + blood fluid	{ Clot. Serum.

Explanation.—The circulating blood consists of *the blood fluid, the red and colourless cells*. When blood is withdrawn from the body, *the first event* is *the rupture* of some of the colourless cells. *The molecules* and *plastic element*, consisting of *a fibrinous* and *an albuminous constituent*, mingle with *the blood fluid*, producing *the liquor sanguinis*. *The second event*, which very shortly succeeds, is *the fibrillation of the fibrin*, which entangles the molecules, the red and unruptured colourless cells forming *the clot*, leaving the albumen in solution in the blood fluid, forming *the serum*.

ON

A NEW CRANIOSCOPY,

UPON A SCIENTIFIC FOUNDATION:

A Lecture delivered at Leipzig, on the 3d of February, 1844,

By Dr. C. G. Carus,
Medical Privy Councillor, and Physician in Ordinary to His Majesty the King of Saxony, &c. &c.

TRANSLATED FROM THE GERMAN,
By J. C. H. Freund, M.D.

[Continued from p. 684.]

(For the London Medical Gazette.)

Let us take the well-developed brain of one of the mammalia, not to say that of man, and we shall find that the connexion of the several masses of the vesicular primitive substance is too intimate to allow an injury of the anterior brain to be exclusively attended by impairment of intellect, injury of the posterior brain exclusively by impairment of volition, and injury of the middle brain exclusively by impaired sensibility.

There can be no doubt that a dominance of the psychical tendencies within each of these organic divisions can and will be easily traced, partly by observing the consequences which arise after injuries occurring accidentally, or inflicted on purpose, and partly by close examination of the symptoms of local diseases; but an exclusive, and, as it were, fixed seat of these psychical dispositions in certain and distinct parts of the brain, can never be proved. An injury to the anterior brain (the hemispheres) is, therefore, frequently attended with impaired sensibility, and a certain degree of paralysis in the sphere of reaction; but the principal and main disturbance will certainly become apparent in common sensation and the faculty of intellect: in the same manner will an injury, or some disease of the cerebellum, principally disturb the power of motion, and produce convulsions or paralysis, but it will be also attended with aberrations of the intellect, and some derangement in common sensation. The foregoing remarks will likewise afford sufficient means to explain the reason why, in collecting carefully the great number of experiments which have been instituted by German, French, and English physiologists, this multifarious bloodshedding has not, and cannot have been attended with universally elucidating and harmonizing results.

As soon as by superior synthesis the unity of cerebral life is perfectly established, it becomes, as will be easily understood, quite impossible to draw up one stop or register without touching the others.

Instead, then, of the wonderfully abstruse views of Gall, which I can hardly convince myself that he believed in sober earnest, viz. that the higher the organization develops itself, so much the more distinctly do the psychical radiations become fixed in certain lobules of the brain, we find that the higher the organization ascends, the greater is the freedom which the psyche gains over all the original and local relations (affinities), and the more perfectly is the inward unity of the real central mass of the nervous system established.

The question now arises, whether the system of symbols (the symbolical character), attributed to the structure of the brain, is utterly worthless? We answer this question by putting another, namely, whether it be perfectly indifferent that a man be born with a cerebral mass large and well developed, or with one that is small, and of very inferior organization? Whether it be the same that a man be born with a large cerebellum, and a proportionally small anterior brain, or, *vice versâ*, with very large hemispheres and a small cerebellum? We ask, finally, if it be the same whether the middle portion of the brain be relatively more developed or not, as compared with the two other portions?

Whoever should say that it was, would fall into an absurdity, and what he said would be as groundless as if he were to inform us that it is unimportant to the faculty of sight whether a man be born with small eyes, and poorly developed, with convex or flat eyes, with eyes that, like those of an Albino, are without the pigmentum nigrum; it would be just the same as if a man were to assert that it is of no importance whatever to the energy of motion in man whether he be born with strong or with delicate muscles, with powerful or with feeble limbs.

No; it is not indifferent; and when we speak of faculties and talents which we have brought with us from our very birth, we are right in asserting it, be-

cause the organ of the psyche, viz. the brain, is very different in different individuals. How far this difference extends in both, we are able to learn in the clearest way—certainly by no anxious search after personalities—but by studying before all the differences between whole races or tribes of human beings. Let us, in the first place, for instance, consider the difference between man and woman, and we shall find that if the weight of a man's brain is 3 lb. 8 oz. per average, that of a woman is only 3 lb. 4 oz.; and the reason of its being so is the size of the hemispheres being, in proportion to the two other parts of the brain, much greater in man than in woman; the size of the cerebellum also of man being, on an average, absolutely of greater weight than that of woman. If we then compare with this which we know to be the leading features of man's character, when opposed to that of woman, we find, without any possible contradiction, a greater share of intellect and vigour (Thatkraft) in man, whilst both these capacities are much inferior in women; but the sphere of feelings (das Gemüthsleben) is, from this reason, more predominant with them. Quite a similar parallel can be drawn by the consideration of the structure of the brain and psychical life in the Negro, as compared with that of an European; of an infant as compared with an adult, in mammalia and man; and even from this it will be seen very clearly—all single cases of special personalities among men being put aside—that the primitive proportions in the organization of the brain not merely may, and can be, considered as essentially expressive of the primitive faculties of psychical life, but that they really *must* be considered as such.

A circumstance of the greatest importance for the higher development of the psyche must not here be forgotten, namely, that the intimate fibrous connection which develops itself gradually in the interior structure of the brain, re-establishes a greater freedom, and a greater independence of the psyche, by reason of its suspending partly, and by degrees, those local relations which have existed there originally.

We easily can conceive that certain unfavourable proportions may be, and really are, in part removed by the change above mentioned; thus it is within the reach of possibility, that though the hemispheres have been originally rather inferior in development, while the middle and posterior portion of the brain has been originally of higher development, a degree of psychical perfection may be obtained, which is usually only met with in cases where the original formation of the hemispheres had been more favourable. And all this can be explained from the different cerebral masses being afterwards brought to an unity by a completely synthetical connection. Again, in instances of this kind we see very distinctly that true physiology and phrenology, far from infringing on and contradicting the doctrine of the liberty of man, affords the most decided proof in its favour.

I hope the preceding observations will suffice to give a somewhat adequate impression of what we call the *dependence* (Bedingtseyn) of psychical being on the physical; the physical, which surely in its primary organization is but the expression, the image, of that very idea which first was to live in this form and organization, without consciousness of itself; and then, obtaining subsequently some amount of that consciousness, was destined to develop itself into what we know by the name of the spirit (Geist.)

I will only add here, that consciousness which develops itself out of an unconscious life—in one word, the psyche—never remains without some influence upon the organization; and certain it is, that the better development of the conducting fibrous substance, which establishes all proportions and relations, is just as dependent on the greater exercise of the psyche, as a higher development of the muscular fibre is on the stronger exercise of the muscular frame; and in the same manner, as we very often find that a muscular system, originally feeble, attains by continued exercise a higher degree of vigour and perfection than another which, stronger and larger in its original organization, but deprived of exercise, remains consequently of inferior development, just so can a cerebral mass, though of inconsiderable volume (the spirit of consciousness in which augments, by continued exercise, the development of the inward fibrous communications of the central masses),

arrive at a higher degree of psychical energy than a brain which, originally of greater size, remained from want of employment less perfectly developed in its inward structure.

All this, besides many other precautions, deserves our consideration when we select the cerebral frame of an individual for the purpose of ascertaining by outward signs the degree of his psychical attainments.

From the same source we are enabled to explain away some apparent contradictions from time to time furnished by comparative anatomy, which have cast some doubt on the psychical meaning of the cerebral organization. It has, for instance, been said, that the cerebral substance cannot be of such importance to the psyche, because we see that many a small bird has in proportion to its whole body a much greater quantity of brain than man himself possesses; but it has been overlooked that the brain of birds is very deficient as regards its inward structure, and contains very little of that fibrous substance which is such a characteristic sign in the brain of mammalia and man, &c. &c.

This may be deemed sufficient as regards the proportions of the nervous substance and the brain, and we now come to the consideration of the skeleton of the nervous system, and especially of the skull, and it shall be our task to ascertain how far the skull is capable of affording any outward signs or symbols, in other words, of being the image of the brain, as the latter presents itself externally in the living body, and how far we from this source may feel justified in forming conclusions of peculiarities in psychical life from the configuration of the skull.

In order that we may follow out our observations with some degree of success, it is first necessary to have an idea of what is called, in the nomenclature of the osseous system, the vertebral structure, or the vertebral frame.

Oken once said: "The whole skeleton is but a repetition of vertebræ." And truly, by a strict scientific consideration of all the remarkable forms of the skeleton, to the study of which I at one time devoted ten successive years, and the results of which I laid down in my greater work on the primary parts of the osseous and scaly frame, I found this truth of Oken perfectly confirmed. In giving the world this fact, Oken was rather instigated by an obscure feeling of truth, than by conclusions scientifically drawn.

It will suit us here to take hold only of those observations on the vertebral structure which closely refer to the subject in question, and we find that the central masses of the nervous system, especially where they attain higher development, call into immediate existence a certain tendency of organising life, by the aid of which they are surrounded with an osseous capsule, a sort of osseous ring, usually called "vertebra." And it is in this way that in higher orders of animals a vertebral column takes its origin.

Each division of the central substance of the nervous system, defined by giving origin to a large pair of nerves, becomes enclosed within a separate vertebra, and this being several times repeated gives rise to a column more or less moveable, the greater portion of which is known by the name of spine. We have mentioned above, that Gall was the first who distinctly saw and knew that the brain was but a part of the spinal chord in a higher state of development, or, as it were, the blossom of the same. One would suppose, that as a natural consequence he would have followed up that truth, and arrived at a second, namely, that the bones which are usually called the skull are nothing but vertebræ (like those of the spine) only more developed. But the progress which men make in the field of science is effected only by degrees, and so many years were required to elapse before the other truth here alluded to was discovered. Oken was the first who in the year 1807 pronounced the great fact, so important in its consequences, that the skull is a repetition of vertebræ, and indeed a vertebral column consisting essentially of three vertebral pieces. I think I was the first who proved in the year 1814, in a large work on the Brain and Nervous System, that the relation of these three vertebræ to the three portions of the brain is as certain and well defined as that which exists between the vertebræ of the spine and the separate divisions of the spinal chord. After this *apperçu* had been afforded, all well-informed men saw that it could not be otherwise, because each portion of the brain being characterised by one great pair of the nerves of sense, must,

like the different portions of the spinal cord, be enclosed within a vertebra. In all such things we are reminded of the egg of Columbus; after the fact had been stated, every one persuades himself that he knew it long before.

At the present time it must be considered as a well-known fact that the skull does principally consist of three great vertebræ, which are called the anterior (forehead), the middle (mesocranium), and the posterior cranial vertebra (occiput).

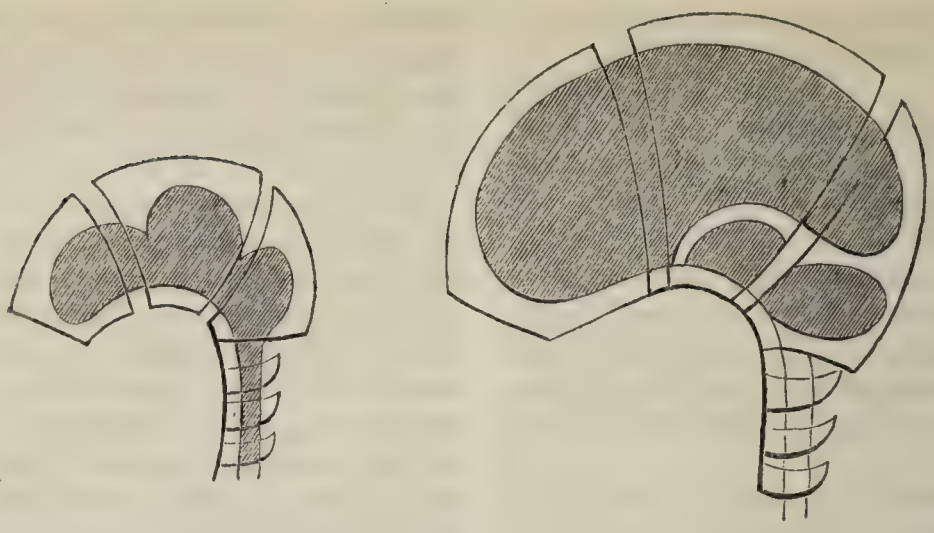
The vertebral column of the skull, however, does not end here, but continues itself into the nasal bones, where we are able to trace the presence of one greater vertebra and the rudiments of two smaller ones; but they do not contain any cerebral substance, and are, in this respect, like the last vertebra of the spine, which also does not inclose any spinal chord. For our present purpose we shall only occupy ourselves with the inquiry into the three great vertebræ of the skull, and I will only add, that there are also traces of vertebræ which bear relation to the nerves of the senses and the great sensuous organs, and have an intermediate position between the nasal vertebra and the front, between the latter and the mesocranium, and another between this and the occiput. Of these the last named is the most developed of all, and sometimes goes by the name of the auricular vertebra, from its receiving the organ of hearing and the acoustic nerve; and its presence is also indicated by numerous small bones towards the upper part, called ossa Wormiana.

If we now collect all that has been said of the brain in our preceding remarks, namely that we with certainty are able to prove the great difference which originally exists between the three cerebral substances as regards their different meaning, but that in consequence of the inward unity, subsequently established by a more intimate connection of all the three substances of the brain, those local relations of psychical life are gradually diminished; but that, nevertheless, a higher or inferior degree of development of the three substances not merely allows, but even proves in a most decided manner, our supposition for there being a disposition of a greater or less development of the three physical faculties, then we are able to judge of what use all that will be in applying it practically for the purpose of ascertaining the meaning of the structure of the skull.

If there exists any relation between the anterior cranial vertebra—it embraces principally the front and the anterior portion of the brain, the so-called hemispheres; if the middle cranial vertebra—essentially constituted by the two parietal bones—is dependent on the middle portion of the brain; and if, finally, there exists any relation between the posterior cranial vertebræ—formed by the occiput—and the posterior portion of the brain, the cerebellum, then there can be no doubt that the original (primary) psychical meaning of the three portions of the brain must be recognizable in the three vertebræ of the skull, namely perception (the intellect), recognizable in the front; the obscure sensation, or the sphere of feelings (the sentiment), in the middle part of the skull; the will (volition), and every power of reaction, in the occiput. We must not, however, forget that it is the original meaning only which will thus shew itself; and that these relations of the organization allow us to judge only of the first psychical dispositions of personality, such as they were recognizable at the period of early and unconscious formation (of the idea of the same organism).

A particular circumstance which generally contributes much to increase the importance of the cranial vertebræ must here not be overlooked. The three cranial vertebræ present, even in the perfect adult, as regards their development, a relative proportion one with another. This corresponds in a most perfect manner, not only with the brain in its full development, but also with those proportions which existed between the three cerebral substances at their earliest period, when, in short, the individual was first brought to existence. (See woodcut, next page.)

We have said, when speaking of the fœtus, that in fish the three cerebral portions are of nearly equal size, and situate one behind the other, the middle portion, however, taking the highest position, while in the grown man the anterior portion of the brain becomes so predominant that it entirely covers the two others; in the same manner also the three vertebræ of the skull



are placed in simple juxtaposition, the middle being the highest and of the greatest size in the embryo, while the reverse takes place in an adult. In him the middle portion of the brain is insignificantly small, and quite covered by the anterior.

From this it will be seen that even in the adult there is recognizable a certain relation between the cranial vertebræ, which bears a strong similitude to the state of parts which we have observed at the earliest period of the brain's existence—at a period when it was still deficient in fibrous tissue, and consequently when no internal union or blending had taken place. If, then, it be a fact that it is only at an early period of life that the different psychical directions of the three different substances of the brain, viz. perception, the sphere of feelings and volition, shew themselves as exclusive faculties, and unconnected with one another, then we become aware of how great importance it must be to observe the proportion which adheres to the three vertebræ of the skull during the whole remaining life, and from it to judge of the peculiar and original relation which existed in the same individual between these cerebral substances as regards their primary disposition, and finally to know how the different faculties of perception, sensibility, and will, were distributed in the same.

With these words we have pronounced the very first and important principles on which is founded a scientific, that is to say, a physiological, cranioscopy, or doctrine of the skull. The foundation of this doctrine is now a known fact, and whoever has faithfully followed us in the line of reasoning which has led us to it, will find himself induced to acknowledge that the question cannot be about some vague hypothesis, but that we have to deal with the unerring consequences of simple physiological facts.

And now I think we are able to understand how the knowledge of the psychical meaning of the cerebral structure can be for the most part thoroughly applied to the skull, where it will be sure of finding all possible confirmation; we shall find, for instance, why the difference in the power of the brain connected with difference of sex is so powerfully well expressed by outward shape of the skull. The skull of women generally is smaller, and of rounder shape; the middle vertebra becomes very prominent, while the anterior (frontal) and occipital vertebra are inferior in size. Quite correspondent with that structure is the female brain itself; women possess stronger and quicker feelings, but an inferior degree of perception and energy to correspond. In man the reverse takes place.

In a similar manner we see the skull of an infant distinguished by its prominent middle vertebra, which is quite in accordance with the prevalent unconsciousness of life at that period, and of the sensation which is only the conscious reflex of the same.

It is thus that we generally recognise a great and harmoniously developed brain by the greater size and the harmonizing form of the skull, and *vice versâ*. And for the same reason, it is a matter of importance, in judging of the psychical dispositions of an individual, to have a clear idea of the relation which exists between the three elementary parts of the form of the head, viz. the three cranial vertebræ. After the explanation given of the

general knowledge on the meaning of the structure of the skull, we are enabled now, in order to treat the subject more simply, to go at once to the following question:—What indications of the psychical peculiarities of different individuals do we obtain by comparing differences in the structure of their heads, and especially differences in the relative proportions of the three cranial vertebræ? Before we, however, enter any further into this subject, one circumstance particularly deserves our attention, namely, the mode of comparing this osseous frame in different individuals. Many other things should also be noticed which in this brief sketch we must pass over in silence, as, for instance, the peculiar convexity (arching), thickness, formation, and coaptation of the different parts of the skull, &c.

The first and most important thing will always be the measure, and particularly as it stands in relation to the remaining dimensions of the whole body: it is not here sufficient to know only the height, width, and length of each vertebra, but the cubical contents of each must be included in that measure, whenever and wherever such a proceeding is practicable; as we do, for instance, in examining a dried skull.

The difficulty exists in discovering such a mode of measuring the skull as on the one side may be neither too superficial nor too tedious, and therefore of but rare practicability, and, on the other hand, one which will be fit to show clearly and faithfully the essential differences in the formation of the vertebræ, and which finally can be made use of in the living body as well as in the dead.

The mode adopted by me is as follows:—

1. Measure is taken of the width of all the three cranial vertebræ, therefore (*a*) of the width of the front, towards the coronal suture of both sides.

(*b*). Of the width of the middle part of the head (middle cranium) in the direction of the eminences of both parietal bones; and

(*c*). Of the width of the occiput from both the lower ends of the lambdoidal suture, and behind the mastoid processes of the temporal bones.

These measures, as well as the following, will best be obtained by the aid of callipers,* both ends of which are armed with little balls, and by calculating the respective distance of the measure thus obtained on a Parisian inch-rod.

2. In order that we may obtain afterwards the exact height of each cranial vertebra, it is necessary to take hold of an external *point d'appui* which bears a constant reference to all parts of the skull. Such a point is most satisfactorily given in the external osseous ring of the auditory canal (meatus auditorius externus). By adjusting one of the blunt extremities of the callipers either directly to that spot in the skull, or in the living subject, so deep in the cartilaginous part of the auditory canal that it comes in contact with the commencement of the osseous tube, and (*a*) by directing it towards the most prominent convexity of the front, the height of the frontal vertebra is ascertained; (*b*) by directing it towards the most prominent convexity of the parietal bones in the sagittal suture, the height of the middle cranial vertebra is obtained; and (*c*) by directing it towards the most prominent convexity of the occiput, the height of the posterior cranial (occipital) vertebra is obtained. And thus we shall be able to learn, if not the exact height of each vertebra, at all events their relative heights.

We have afterwards to ascertain (3) the length of each cranial vertebra, and we obtain

(*a*). The length of the frontal vertebra by measuring the front from the root of the nose to the beginning of the sagittal suture; (*b*) that of the middle vertebra of the skull by measuring the entire length of the sagittal suture, or the upper edge of the parietal bones; and (*c*) the length of the occipital vertebra is obtained by measuring the length of the occiput, beginning from the highest middle point in the lambdoidal suture to the posterior edge of the foramen magnum. (The last mentioned measure can be taken with exactness in the dried skull only).

In this way we easily obtain, in six or nine numbers expressing the essential form and size of each skull, a dis-

* Callipers (according to some etymologists, from the French, "*caliber*") measure the distance of any round, cylindric, conical body.

tinct and well-circumscribed picture of a tabular form; and, at the same time, we may, by way of notes, mark down all the extraordinary formations which we meet with in one province of the skull or other (as, for instance, any overlapping of the parts, or non-symmetrical formations of the vertebræ of the skull, &c. &c.), adding, also, the proportion which the configuration of the head bears to the form of the whole body.

In taking the measure in a living subject, two lines must be deducted from the amount of each measure for the thickness of the skin.

[To be concluded in our next]

ON A NEW METHOD OF MAKING MEDICATED TINCTURES.

To the Editor of the Medical Gazette.

Sir,

Having lately been engaged in examining the strength and properties of the officinal tinctures, I am induced by the results of my experiments to notice several objections to the common method of making tinctures by maceration, as directed in the London Pharmacopœia, and to suggest a modification in it which seems to offer advantages not only over the old method, but likewise over the more recent French method of percolation, as recommended in the Edinburgh Pharmacopœia.

Against the common process of maceration one of the chief objections consists in the difficulty of shaking or stirring effectually the large quantity of materials which are usually employed at one operation in pharmaceutical laboratories; another is the length of time which the process occupies; and a third imperfection is, the waste of spirit by evaporation during the act of stirring, and the final transfer of the moist materials from the macerating vessel to the filter, through which the turbid tincture must be eventually passed.

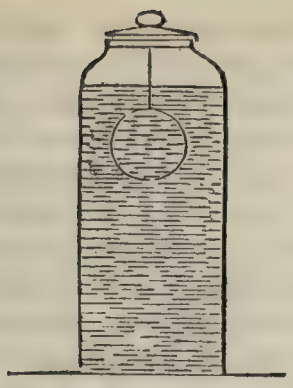
In order to obviate the imperfections alluded to, and to exhaust the solid, or deprive it of its soluble components, with less labour and in a shorter period than is practicable by the method commonly pursued, I suggest that the two parts of the process, namely, maceration and filtration, which are now performed separately, should be conducted simultaneously, and the solids packed beforehand in the bag which is afterwards to serve as a filter. The process is recommended by its simplicity, and may be readily accomplished by suspending the bag of solids just under the surface of the solvent, so that all parts of the bag be immersed, and a space left between its lowermost end and the bottom of the macerating vessel.

In this process no shaking or stirring is requisite; it may be said to be automatic; and as soon as the spirit begins to act on the solid, a coloured tincture will be seen to gravitate through the colourless and lighter spirit by which it is surrounded. In proportion to the rapidity with which the heavier tincture gravitates, a corresponding bulk of lighter spirit ascends, and is carried or forced into contact with the solid suspended at its surface. Thus, in a short time, a descending and ascending current will be established throughout the fluid, and will continue to move as long as the solid contains any soluble extract, or the solvent has become saturated, and incapable of dissolving an additional quantity.

One of the best illustrations of this process is afforded by the phenomena which may be observed during the making of Tinctura Kino, with the proportion of ingredients directed in the London Pharmacopœia; a brief description of which will serve as an explanation of this new application of a principle long familiar to scientific chemists.

Take, for example, 126 grains of kino, in small fragments or coarse powder, and inclose them loosely in a calico bag, large enough to contain as much again, and secure the mouth of it with a fine string. Next choose a glass bottle, stoppered, with a wide mouth capable of holding four fluid ounces of spirit, and pour into it three fluidounces of Spiritus rectificatus, having a specific gravity of 0·838 at 60°. Then suspend the bag of kino by its string, attached to the neck of the bottle, just below the surface of the spirit, and close the bottle, as represented in the annexed sketch No. 1.

The bottle should be left at rest, and almost as soon as the kino is immersed its dissolution commences; in proof of which a bright red stream of tincture



begins to descend, and for a short time remains at the bottom of the bottle, distinct from the colourless spirit above and around it; but in the course of a few hours the red stratum will have increased in thickness, and eventually ascended to the upper surface.

The tincture of kino thus produced will be perfectly clear, and its physical properties at the end of three or four days will correspond precisely with a tincture made with kino of the same quality, and spirit of equal density, mixed in the same proportions, and macerated together in a bottle for the space of fourteen days, according to the old method.

Equal quantities of the same kind of myrrh, treated respectively with rectified spirit of equal density, by the two processes, yielded two tinctures which also possessed analogous qualities; and the tincture made by the new method was perfected in three days. The tinctures of jalap and opium were likewise perfected in about the same period, and that of catechu in two days. Those of yellow and pale cinchona, and that of compound gentian, have also been prepared with great facility by the same method.

But as the solubility, in the same kind of menstruum, of the animal and vegetable compounds used in making the officinal tinctures, varies with their nature as well as with the temperature of the neighbouring air, heat promoting, and cold on the other hand retarding it, and as no advantage is invariably gained by shortening the process of maceration a few days, but, on the contrary, some risk might be incurred of failing to exhaust the solid, it will be safer to protract the maceration by suspension of large quantities to seven days, although a less time might serve in many cases.

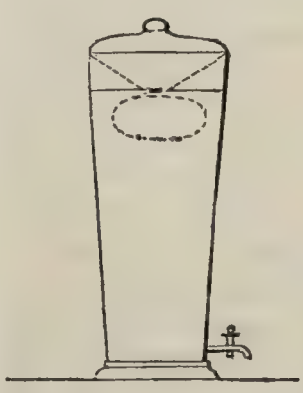
The subdivision of the solid will also influence the rate of its dissolution; and in general fine powders are more quickly acted on by menstrua than coarse powders; but for some reasons the latter are preferable, and the directions given in the London Pharmacopœia as to the disintegration of the solids used in making tinctures are sufficiently explicit.

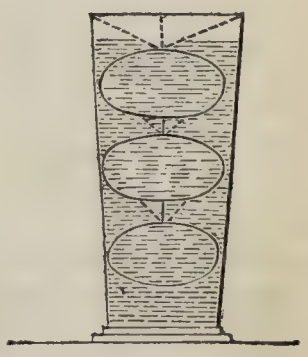
The absorbing power of dry porous solids, and the reciprocal affinities between them and spirit, are able to overcome considerable impediments to the free circulation of the latter through the bag and its contents; but unless attention is paid to the texture of the bag, and the mode of packing it, time will be lost, and the perfect success of the method endangered.

Fine flannel or calico will answer the purpose of a filtering bag very well; and in this the dry solids should be loosely packed, so as to allow space enough for their expansion on being immersed in the spirit, and for the circulation of the latter through them.

But some solids, as cinchona, used in making tinctures, are more bulky than others, as kino, and the proportions of spirit are definitely fixed by the directions given in the London Pharmacopœia; and it will be found in consequence, that when a very bulky substance is to be macerated by suspension, that the quantity of spirit will not be sufficient to cover the bag and solid in a vessel of the cylindrical form. In such cases it will be necessary to choose a vessel of the requisite capacity, and of a conical shape, inverted and truncated, as delineated in the annexed drawings, No. 2 and 3.

No. 2. No. 3.





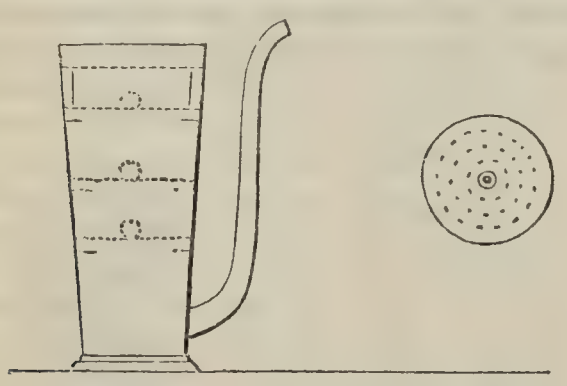
It may be constructed of either porcelain, earthenware, or glass, furnished with a lid to fit closely, and with a tap at its bottom through which the spirit may be drawn off.

In this shaped vessel, from the capacity of a champagne glass to that of a jar containing many gallons, the macerating bag of proportionate dimensions may be suspended at the requisite

height by regulating the length of the strings, either fastened to the outer rim of the vessel, or to projections made on purpose within it; and so arranged as to keep the bag just clear of the sides, and as high as possible above the bottom of the vessel, but at the same time under the surface of the spirit.

The quantity of tincture which can be decanted or drawn off after the maceration has been completed is always rather less than the original quantity; and when porous solids are used, the loss of spirit may be obviated in part by submitting the bag to pressure; but a portion will be permanently retained by the solids, and the expressed tincture will be turbid. When, therefore, the loss of a small proportion of spirit is not an object with the pharmaceutist, the solid may be more effectually exhausted, and a clear tincture obtained, by submitting the bag and its contents to a second maceration in a fresh portion of spirit, equal in bulk to that which is retained by the solid after the first maceration.

But if no pressure is thought to be requisite, less spirit would be wasted by absorption, and time saved, by modifying the arrangement, and substituting a fine sieve-shaped receptacle for the bag, suspended at the proper height, as before described, or by internal projections, and in which the solids may be loosely strewed, as in the annexed outline sketch, No. 4.



I have found this arrangement answer very well with catechu and myrrha; and it has the advantage of exposing a more extensive surface to the action of the solvent, and retaining a less quantity of spirit by absorption, than when the bag is employed.

The foregoing remarks relative to making tinctures apply also to the medicated wines of the London Pharmacopœia; and I have prepared by this process the Vinum Ipecacuanhæ in less than forty hours, and the Vinum Colchici in three or four days, of equal strength respectively to those made by the old process in fourteen days. The same plan may be followed in making infusions; but the macerating bag should be open as the coffee-biggin, and the boiling water poured on the solids to be infused, in a vessel somewhat resembling the sketch No. 4, having a spout through which the infusion may be poured when cold.

Mr. Warrington, of Apothecaries' Hall, has kindly lent his valuable assistance in trying the proposed method on a large scale; and I am also indebted to Mr. Whitfield, the Apothecary of St. Thomas's Hospital, for several useful practical suggestions; the testimony of both of these gentlemen tends to strengthen my own opinion of its general applicability to the purposes of pharmacy, and of its novelty.

I remain, sir,
Your obedient servant,
HENRY BURTON,
Physician of St. Thomas's Hospital.
Jermyn Street, Aug. 1844.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

On Calculous Concretions in the Horse, Ox, Sheep, and Dog. By W. J. T. MORTON, Lecturer on Medical Chemistry and Veterinary Materia Medica. With Plates. London: Longman and Co.

CALCULOUS concretions are found in the alimentary canal, in the urinary organs, and occasionally in the salivary glands and ducts, lungs, liver, and other parts. Those taken from the stomach were formerly termed bezoar stones, and were esteemed of great virtue as prophylactic talismans. Stomachic calculi in the lower animals are principally composed of the phosphates of ammonia and magnesia, which are always found in the outer horny husk of the seeds of the grasses, and particularly in large quantity in the bran of flour. They are caused by a derangement in the process of digestion which prevents the assimilation of the food, and allows the phosphates to aggregate around any foreign body in the stomach. Liebig informs us that the large crystalline concretions

which are met with in the cœcum of millers' horses, consist of the phosphate of magnesia in combination with ammonia.

Mr. Morton divides intestinal calculi into three kinds—the triple phosphate calculi, consisting principally of the ammonio-magnesian phosphate, with the phosphate of lime and animal matter—the oat hair calculi, consisting chiefly of the hair of the oat with similar phosphates—and the mixed calculi, usually termed dung balls. The greater number of intestinal calculi consist of the triple phosphate. Mr. Morton observes that these calculi vary considerably both in size and number. They are from the bulk of a small pea to that of a man's head. Sometimes only one or two will be found, and this is commonly the case with the larger ones. Occasionally, such impact themselves in the sacculi of the intestines, and remain there altogether harmless, giving no signs whatever of their existence. At other times they become dislodged, and cause much irritation and colicky pains, followed by inflammation and death, Now and then they have been voided with the excrement. Their structure is singularly uniform, and, I may even add, beautiful. Some adventitious substance exists in the centre of each, around which the phosphates have arranged themselves in equidistant circles, or in lines radiating from a common centre, there only to be interfered with by the mechanical action that may have been induced by the vermicular motion of the intestines. Some difference in colour of the layers will be seen, the darker alternating with the lighter. I am rather inclined to think that this depends upon a modification of the attractive force. Their density is by no means uniform. Some on their external surface are pale-coloured and friable, breaking off in scales; others are dark coloured, hard, smooth, and polished, as if recently taken from the hands of a lapidary." M. Girardin analysed one of the specific gravity 1·741, and found it to consist of

Ammoniaco-phosphate of magnesia	48.
Phosphate of lime . . .	19.
Water of interposition . .	14.
Animal matter	0·80
Matters soluble in water (soda, sea salt, alkaline carbonates, and salts of lime and magnesia)	6·60
Extractive matters soluble in alcohol	4.
Fatty matter	7.
Loss	·60
	100

Mr. Morton is of opinion that the earthy and other matters taken into the stomach and intestines never form true calculi when the digestive powers are healthy. Dr. Maclagan analysed an oat hair calculus which was as large as two closed fists, and weighed rather more than eight ounces. The surface was lobulated, and covered in many places with patches of light brown crystals. These, as well as the greater proportion of the earthy matters, consisted of the phosphates of ammonia and magnesia. The bulk of the mass was made up of the hairs and husks of oats. The composition of the whole was as follows:—

Organic matters and moisture	52
Soluble salts	8
Phosphate of lime . . .	6
Ammonio-magnesian phosphate	28
Silica	6
	100

By the aid of the microscope the oat hairs may be seen in these calculi. Dung balls, or mixed calculi, are made up of coarse, indigestible, excrementitious matter, mixed with portions of the calculi already described, and many foreign substances, such as pieces of coal, gravel, &c., the whole being agglutinated together by the mucus of the intestines; and they are most commonly met with in horses that are voracious feeders. Mr. Bowles, of Abergavenny, states that he often finds a large quantity of coal and stones in the intestines of horses that work under ground. Mr. Simonds is of opinion that calculous concretions are by no means so frequently met with in sheep as in oxen. In rams it is by no means uncommon for the vermicular extremity of the penis to be closed by an accumulation of earthy matter, which has the appearance of crystallized carbonate of lime.

Phlebolites, or vein stones, often attain

the size of a common pea; more frequently they are smaller, and sometimes they do not exceed a millet seed in size. Otto* saw one in the Anatomical School at Strasburgh, of the size of a hazel nut. They are usually of a yellow colour, and consist of concentric lamellæ, and are more frequently of an oval than a round shape. According to the analysis of John and Gmelin, they are principally composed of carbonate and phosphate of lime with animal matter. Different opinions have been entertained respecting their formation. Mr. Hodgson thought it not improbable that phlebolites were formed in the surrounding parts, and found their way into the veins by progressive absorption. Meckel entertained an opinion that they were formed like encysted tumors. Andral states that calculous concretions sometimes push the internal membrane before them, and descend with them into the cavity of the veins. The membrane, he adds, becomes thin, and forms a true peduncle to the concretion. The observations of Dr. Carswell prove that there is first formed a small coagulum of blood in the veins, and that in the centre of this clot a little nucleus of concrete layers gradually appears. After a time the red part of the blood is absorbed, and fibrine makes its appearance with the usual physical characters. Then a certain arrangement can be perceived taking place in the fibrine, forming lamellæ, the central one first formed apparently becoming cretaceous; and this cretaceous induration takes place throughout the different lamellæ until the whole is converted into a solid phlebolite. In the point towards the distal extremity of the vein there is sometimes a little nucleus of blood or fibrin, which becomes a concretion, and thus the phlebolites get a caudal extremity.

Mr. Morton analysed a portion of one of the phlebolites, and found that its investing tunic was made up almost wholly of albumino-fibrin. "A portion of its interior," he states, "being boiled for some time in distilled water, did not undergo any perceptible change whatever, nor did it impart any sensible properties to the water. In a solution of caustic potassa it became dark-coloured, but emitted no ammonia. Another portion, about five grains, being placed on a piece of platinum foil, and subjected to the influence of heat by the aid of a blow-pipe, blackened, and threw off copious exhalations having the odour of burning animal matter. It then became white, and on being weighed was found to have lost nearly one-half its weight. The residuum quickly dissolved in dilute hydrochloric acid with effervescence, and the gas evolved rendered lime water turbid. The solution being filtered, and rendered nearly neutral, the oxalate of ammonia threw down from it an abundant precipitate, and on adding an excess of water of ammonia to it, gelatinization took place. The microcosmic salt threw down no precipitate, and the hydrosulphate of ammonia caused no discolouration, proving the absence of the metallic oxides. The inference deducible from the above analysis is, that the concretion consisted of animal matter—nearly one-half, the remainder being the phosphate and the carbonate of lime."

Gmelin analysed some phlebolites taken from the human subject, and found them to consist of

Animal matter	27·5
Phosphate of lime . . .	53·5
Carbonate of lime . . .	15·5
Magnesia and loss . . .	3·5
	100

A concretion, reported to have been taken from the thoracic duct of a horse, was composed of the phosphates, and was invested with a membranous covering. Mr. Barth removed some calculi from the spongy portion of the clitoris of an ass, which were composed of the urate of soda and phosphate of lime.

This work is creditable to the author, and the plates are well executed, especially those which are illustrative of the oat-hair calculus.

On the Decrease of Disease effected by the Progress of Civilization. By C. F. H. Marx, M.D., Professor of Medicine in the University of Göttingen, &c. and R. Willis, M.D., Member of the Royal College of Physicians, &c. London: Longman and Co.

We are happy to see this excellent little work, which, as our readers know,

* Transactions of the Veterinary Medical Association, in Cyclopædia of Practical Medicine.

appeared originally in its English dress in these pages, printed separately, and made accessible to all classes of readers. That which has seen the light under our own ægis we are naturally restrained from speaking of in terms either of praise or dispraise; this much we may be allowed to say, however, that we have only heard the work mentioned in terms of the warmest commendation, whether by professional man or lay-man, into whose hands it has fallen.

In its distinct form the work is most appropriately inscribed to Mr. Chadwick, a gentleman who may be said to have been the first in this country to see the important bearings which the labours of medical men have upon the well-being of society, and who first systematically used the information which they possess for the enforcement of truths, and the elucidation of questions of the very highest importance in political science. We are pleased to see the exertions of such a man as Mr. Chadwick appreciated by such competent judges as Drs. Marx and Willis; the compliment they pay him is as well-timed in connection with their subject, as it is well deserved, Mr. Chadwick's claims to general attention being considered. To give the work on the Decrease of Disease to our readers quite complete, we shall quote the dedication to Mr. Chadwick, and the preface by the English editor.

To Edwin Chadwick, Esq. Barrister at Law, &c. &c.

Dear sir,—There is no man in this great empire, whose name can be so appropriately placed at the head of an essay on the *Decrease of Disease by the Progress of Civilization*, as your own. Allow us the pleasure of placing it there, of expressing, at the same time, the high sense we entertain of your labours, and of associating you, though not of our profession, with its very highest offices, —the diminution of the causes of disease, and through this, the elevation of mankind in the intellectual and moral scale. Your *General Report on the Sanitary State of Towns*, is, beyond all question, one of the most valuable contributions that has lately been made to the noblest department of medical science,—the Art of preserving the Health of the Community,—and will have an influence upon the human family as long as it exists.

With an expression of our sincere respect, and warmest sympathy with your labours, believe us, dear sir,

To be yours very sincerely,

C. F. H. Marx.
R. Willis.

June 18th, 1844.

Preface by the English Editor.

My distinguished friend, Dr. Marx, won all hearts on the occasion of his vist to England in the summer of 1841, and I have always been anxious publicly to show him in what dear remembrance I hold his short stay among us, and how much I prize his friendship and esteem. It seemed to me that I could do this in no better way than by making him known in England in our mother tongue, and I have for some time intended to give to my professional brethren one or other of his smaller works in an English dress. The excellent essay of my friend, "On the Decrease of Disease effected by the Progress of Civilization," enables me, I trust, to present him to a wider circle than that which is merely professional, and thus to extend the sphere of his influence and usefulness.

Physicians have no place in the body politic; it would be well for humanity if they had; for who, since the revival of letters in Europe, have been foremost in every undertaking whose object has been to extend the boundaries of knowledge, and to exalt mankind? Who know half so much of the wants and the wishes, of the joys and the sorrows, of the community?—who are the friends and comforters, in adversity especially, of persons in every grade of life—from the sovereign and the peer, to the wretched outcast of the streets, houseless, homeless, friendless else? Who disarm pestilence of its power, and give Jenners to the world? Who follow in the field through the thickest of the fire, not that they may aid destruction in her work, but, God-like, that they may staunch the wounds she makes? In one word—the medical profession, medical men. The servant of religion hath not more of true sanctity about him than the good physician; the service, indeed, that was rendered of old in special temples to the

Divinity conceived in one of his most beautiful attributes, is not yet extinct upon earth, but has its ministering priest, ennobled by Christianity, in every worthy member of the medical profession. Oh! let society cherish and exalt its medical community: let it become aware, that if *science* cannot aid it in its struggles with disease, neither can *ignorance;* that nothing can by possibility be known to the quacksalver and empiric that is not familiar to the educated physician; that a youth of preparation, and a life, however protracted, of ceaseless devotion to his art, are still too little to familiarize him with all the varieties of disease, and the means of meeting them successfully; and that there is no access to the Temple of Medicine save through an intimate knowledge of the laws by which we live, and move, and have our being.

In publishing this little work, I ought to say that I have rather paraphrased than translated my friend; that I have often added to his words, sometimes retrenched from them, sometimes made him speak otherwise than he does of himself.—I had not only to make him speak English, but also to speak as an Englishman: in short, I had done so much, that it became necessary for me to submit the proof-sheets of the work to Dr. Marx, and it is with his concurrence and wish that my name is associated with his own on the title-page.

R. Willis.

MEDICAL GAZETTE.

Friday, August 30, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

Cicero.

THE BILL FOR THE BETTER REGULATION OF MEDICAL PRACTICE THROUGHOUT THE UNITED KINGDOM—No. III.

We have lived long enough in the world to be well aware of the folly of attempting to convince mankind, by the soundest arguments and the most definite facts, against their will and previous conclusions. For friends and companions we have to find men who think and feel as we do ourselves. When we begin to argue with any one on making his acquaintance, we are already half way towards a quarrel with him—the thermometer of mutual confidence and esteem, at all events, falls to zero; and, though we may nod as we pass, and even give each other "good day" afterwards, still it is all done coldly, and with indifference. So we fear will it be with this medical bill: they who have been instrumental in suggesting its provisions to the minister will look upon us coldly because we differ from them, and venture even to find fault with what they doubtless deemed faultless. All the world, professional and lay, who had no hand in concocting the bill, however, are agreed as to the impolicy of removing the few and slender barriers that formerly existed between the ignorant public and presumptuous empiricism; and we trust that Sir James Graham, as he did not contradict Mr. Macaulay, when that gentleman said, that "he understood the right honourable baronet as intending that the bill should be considered in the recess, in order that any modifications which might be agreed upon as desirable might be introduced into it next session," will yield to the general persuasion on this important point; and, further, that his advisers will not oppose themselves too resolutely to his adding a single clause, to the effect "That whosoever from this time henceforth presumes to practise medicine or surgery without having had sufficient education, and been found competent by one or other of the legally constituted boards, shall be held guilty of a misdemeanor, be liable to be proceeded against before a magistrate, and, upon conviction, be held obnoxious to fine and imprisonment." We particularly deprecate the onus of proceeding

against incompetent persons by way of action at law, being thrown upon any of the medical bodies that either exist, or that may be called into existence. It is an odious duty; it has always been looked upon with very jealous eyes by the public, and even been made a handle against the profession of medicine. Thieves and pickpockets are respectable persons in our eyes, in comparison with those who, without the knowledge necessary, tamper with the lives and well-being of their fellow creatures; so that we conceive the nearest police-office tribunal high enough to decide in the cases of unlicensed practitioners of medicine.

The second clause of the Bill enacts, "That a Council shall be established, which shall be styled 'The Council of Health and Medical Education;' and that One of Her Majesty's Principal Secretaries of State shall be a Member of the said Council, in right of his office as Secretary of State; and that the Regius Professor of Medicine in the University of Oxford, the Regius Professor of Physic in the University of Cambridge, the Regius Professor of Physic in the University of Dublin, the Regius Professor of Clinical Surgery in the University of Edinburgh, and the Regius Professor of Surgery in the University of Glasgow, shall be Members of the said Council in right of their several Professorships; and that the other Members of the said Council shall be *One* Physician and *One* Surgeon, to be chosen by the Colleges of Physicians and Surgeons respectively; *One* Physician and *One* Surgeon to be chosen by the Colleges of Physicians and Surgeons of Scotland respectively; *One* Physician and *One* Surgeon to be chosen by the Colleges of Physicians and Surgeons of Ireland respectively; and *Six* other persons whom Her Majesty, with the advice of Her Privy Council, shall deem fit to be Members of the said Council."

In the *Times* newspaper of Friday, August 23, will be found some excellent observations upon this clause. The writer there regards the Medical Bill from the proper point of view, as a measure deeply interesting to the community; and the particular clause in question he even regards as bearing hard and prejudicially on some of our characteristics as Saxon men, one of whose grand distinctions from all other men has consisted in this: that we have been used to self-government. And certain it is that our state administration has really had very little to do with all that comes most immediately home to us as denizens in this realm of England. Our executive appoints us judges, indeed, expounders of the laws, presidents who regulate our proceedings in our civil and criminal courts, but twelve of ourselves finally try the cause and find the verdict. In our guilds and corporations we have ever a voice potential in all that concerns us as citizens; and in the broad system of religious toleration which we have established, we secure perfect freedom in matters metaphysical.

"Regarding the medical profession," says the *Times*, "as comprising a large body of educated men, exercising a very considerable influence on the people, though not always very ostensibly, and rather domestically than politically, it is impossible for us not to deem the constitution of the proposed 'Council of Health and Medical Education' a matter of national importance.

"Hitherto the principle of self-government has been carried out in the medical profession, and with indisputable benefit to themselves and the nation. Considering the vast extent of the interests confided to their care—the health and much of the physical welfare of the whole people—considering also that to their freedom of inquiry and action we owe the gradual progress of the science of medicine, the testing and rejection of what is empirical, the steady adoption of those principles which have stood the trial of repeated examinations, it is not too much to assert, that to place them now under what will be no better than a Government board, is a most rash and uncalled for experiment; and yet this is

what Sir J. Graham's measure would effect.

"The Council is to be composed of 18 members. Of these, one of the Secretaries of State—of course the Home Secretary, at present Sir J. Graham himself—is to be the President, with a double vote, and with power to nominate the Vice-President. Five Regius Professors are to be *ex officio* members; and six other members are to be nominated by the Crown. Each of the Colleges of Physicians and Surgeons of England, Scotland, and Ireland, is to choose one of the six remaining members. Of the 19 votes which the Council will have, 13 will be those of nominees of the Crown; and, leaving out of the calculation the casting vote, there will be two Government votes against every professional vote—a majority quite sufficient to secure to the Home Secretary the virtual control of the Council. But, as if this majority were not sufficient by itself, the members are to be paid 'such salaries as shall be *from time to time* allowed by the Lord High Treasurer or Commissioners of Her Majesty's Treasury,' who are also to have the power of allowing (and consequently of disallowing) such reasonable travelling expenses 'as they shall think fit' to the members; so that, unless the professional members should happen to be quite independent of private practice, and able and willing to incur the expense of performing their duties gratuitously—a lot we should suspect not likely to be that of the best men whom the colleges could choose—they will be subject to the *argumentum ad crumenam* enforced with all the logic of the Home Secretary. An equally impudent attempt to increase ministerial power and to carry out the principle of centralization—to reconcile the sham of a popular election with the reality of an absolute nomination—we never met with; and the despotic authority to be vested in Sir James Graham's Council is as astounding. The various colleges of physicians and surgeons are 'from time to time, when required by the said Council,' to lay before them schemes of their courses of study and examinations, '*and the said Council shall be empowered to make from time to time such changes in any of the schemes so laid before them as to the said Council shall seem expedient;*' so that the whole of our medical and surgical colleges throughout the kingdom, all their professors, lecturers, and students, and all the future members of the profession, are to be subjected to the virtually irresponsible fiat of the Council under the presiding control of the Home Secretary for the time being. As if to insure that the Council should not let well alone, but that they should *of necessity* make changes in the schemes laid before them, it is to be expressly enacted that they '*shall endeavour to procure*, as far as is practicable and convenient, *that the qualifications and fees for testimonials shall be uniform*, according to the nature thereof, *throughout the United Kingdom.*'

"No one who has the slightest acquaintance with the existing state of the profession can hesitate to denounce this as a piece of gratuitous mischief. Its direct, immediate, and inevitable tendency is to destroy at one blow much of that competition between the different schools, to which, perhaps more than to any other cause, we owe the rapid progress of the profession within the last few years. It is the tendency of all old-established institutions to become rather passive, and therefore we are not invidious when we refer to the stimulus which was given to Bartholomew's by its being undersold (one of Sir James Graham's bugbears is underselling) by the Aldersgate School, to the struggle with Bartholomew's for supremacy which Guy's has for years been making, and to the new spirit infused into all the London schools by the exertions of those attached to hospitals in various parts of the country, as being direct evidences in favour of an absence of precise uniformity in the course of study and the expense of education. Why, the very life of every profession consists in the freedom of its action and of honourable competition between its members; and here steps in Sir James Graham with a measure for medical reform directly calculated to destroy it, with the power placed virtually in his own hands to carry that measure into operation, and with the duty self-imposed of bringing all medical education in future to one unvarying level."

There is something of this with which we agree; there is also something of it from which we dissent. It

cannot have been written, we should say, by a medical man, though it have a smack of particular medical information. We do not believe, for example, that the competition between medical schools has had any the slightest influence on the progress of medicine, or that St. Bartholomew's Hospital was ever stimulated by being undersold by the Aldersgate Street School. The prices at the two places particularly quoted continued at their former unequal rates; but the school beyond the hospital may be said to heve died a natural death some time ago. Some of the cheap schools have even done much to degrade the profession; the laxity of discipline there has prevented the teachers of the larger establishments from enforcing the attendance of the pupils in the way they would have done; young men have not always entered to the cheap schools that they might save money; they have sometimes done so that they might have their schedules filled up without the necessity of attendance. It is not the amount of fee that is all; it is even much less than the talent and zeal of the teachers; and we cannot help thinking that uniformity of fee would do much good. But we are anticipating what we shall have to say on this head, and our business is not to argue with our giant contemporary; it is to discuss this medical bill paragraph by paragraph, and to try the stuff of which it is made in the fiery furnace of independent criticism.

With the elements, or rather the kind of elements, of which "The Council of Health and Education" is to be composed, we find no fault; but what we fear is, that the materials are not available; that they cannot be brought together. The principal Secretary of State, and the six nominees of the Crown, could always be reckoned on; so, perhaps, might the Physician and the Surgeon who are to be chosen by the Colleges of Physicians and Surgeons of London respectively; but who shall say as much for the Regius Professor of Medicine of Dublin, of Oxford, of Cambridge, or for the Regius Professor of Surgery of Edinburgh, or the Surgeon and the Physician to be chosen by the Colleges of Surgeons and Physicians of Scotland and Ireland respectively? Will they leave their chairs, and their practice, at the rate perchance of two or three thousand a-year, for a week's or a month's sojourn in London in discharge of their duties as Councillors of Health and Education? We rather think that they would not, and that the Council would be, independently of the powerful considerations which the *Times* has pointed out, the mere tool of the single influential man, surgeon or physician, who happened to have the ear of the principal Secretary of State for the time being, and who was its president.

Whilst we admit the great advantage that would accrue from uniformity, or all but uniformity of medical education, we still think that this could be perfectly well secured by a plurality of supreme councils, one for each division of the kingdom, and holding its sessions regularly in London, Dublin, and Edinburgh. There would be no difficulty in these three councils coming to the most perfect understanding upon all essential particulars; a representative from each, meeting together in congress once or twice a year, or oftener, if requisite, would settle everything; and it seems to us that the country would thus be better served, and the independence of our natures better preserved than they could be by any system of centralization which can be devised.

We also think the conjunction of "Health and Education" somewhat unfortunate here. There should be a

Council of Health in every great town, independently of the councils of medical education (which we would have in alliance, yet distinct) in England, Scotland, and Ireland. The wants of society point to the necessity of something of the kind more and more imperatively every day; but the institution of Councils of Health need not be connected with a Bill for the regution of the medical profession. The members of such councils would of course be in principal part medical men, indeed; but their grand business would rather be referable to police than to physic, in the vulgar sense of the word.

MOVEMENT IN THE PROFESSION.

We never knew the members of the medical profession perfectly unanimous before: there seems absolutely but one mind in regard to that absurd proposition involved in Sir James Graham's Medical Bill, the removal of all restrictions whatsoever on the exercise of the profession of medicine. We presume that from Land's End to John o' Groat's, district meetings of medical practitioners will be held, for the purpose of petitioning, in the next session of Parliament, against so much at least of the measure as refers to this point. Marylebone, distinguished for its political organization, as well as for the number and high respectability of the medical men who inhabit the borough, has led the way, and shewn good taste as well as talent in the conduct of its meeting, held last week, for the purpose of declaring its sense of The Bill.

Mr. Pennington, a very old and esteemed practitioner, was called to the chair, and it was resolved, "That an association be formed, to be called the Medical and Surgical Association of the Borough of Marylebone, for the purpose of watching over and protecting the interests of the profession generally, and that the business of the association should be carried on by a President, Vice-President, and thirty members of committee, who would have power to add to their number."

After which Mr. Pennington was elected President, and Messrs. Propert, Clayton, and Squibb, were elected Vice-Presidents. Among the members of Council we observe the names of Messrs. Ancell, Baker, Bird, J. B. Browne, Bryant, Cradock, Hodding, Houlton, Maclure, Richardson, Vickers, &c. &c.

The second resolution was to the effect—"That it is the opinion of this meeting that the Bill introduced into the House of Commons by Sir James Graham, Bart., in its present shape will be highly injurious to the medical profession generally, but more especially to that branch denominated the general practitioners, which class of the profession has been yearly increasing both in respectability and knowledge, and now at the present day numbers amongst its members men as well and as carefully educated as any in the other branches of the profession; inasmuch as its operation would be to throw open the practice of medicine to men, wholly unfit, from want of previous education and study, to be entrusted with the care of the lives of her Majesty's subjects."

The third resolution was in these terms—"That it is the opinion of this meeting that the Society of Apothecaries, since the passing of their Act in 1815, have done their duty admirably, and to the great advantage of the public; and that they have elevated the standard of education of the general practitioner to its present creditable position. It therefore deprecates, most cordially, any attempt to repeal the Act of 1815, unless another tribunal be instituted that will continue the education of the general practitioner under the control of his own grade, and contain some penal enactment for the protection of the public from intrusion of unqualified practitioners."

There may be some difference of opinion as to the mode of effecting all that is desired; there is none as to the affirmation of the principle of protection, which at the Marylebone meeting was viewed as especially necessary to the general practitioner. It is only his right; but we think that he is much less interested in the matter than

the community: *we insist on protection to the community.*

At Bedford, a meeting of medical gentlemen was held on the 19th. It was resolved that a Committee should be formed, for the purpose of taking steps with regard to Sir J. Graham's bill.

At Leamington a very numerous and most respectable meeting was held on Thursday the 22d instant, within the walls of the Warneford Hospital, Dr. Middleton in the chair; at which the following petition was agreed to:—

To the Hon. the Commons of Great Britain and Ireland in Parliament assembled.

The Petition of the undersigned Physicians, Surgeons, and Apothecaries, of Leamington, Warwick, and the surrounding districts,

Humbly sheweth,—That your Petitioners, whilst they hail with satisfaction those portions of Sir Jas. Graham's proposed "Medical Reform Bill" which they believe will tend to exalt the character of their profession, have read with deep regret and one feeling of disappointment that clause in the Bill which, by repealing existing protective enactments, and removing all restrictions from the practice of medicine, would open the profession to any individual however uneducated or unqualified.

That your Petitioners recognise, in the legal qualification at present required in those who would practise medicine or surgery, a necessary guarantee to the public that such practitioners are competent to undertake the highly responsible and arduous duties of their profession, and a just protection to those who, by diligent study, and at a very great expense, have thus qualified themselves.

That, as in framing the proposed Bill it has been considered expedient that certain qualifications shall be required in those few members of the profession who may be appointed to any public situations, your Petitioners would humbly submit to the consideration of your Honourable House, the more urgent necessity of affording to the public in general, in the far more extensive field of private practice, the same protection, which has been, very wisely, thought necessary for the inmates of hospitals and workhouses.

That a result, which your Petitioners feel assured would be deeply deplored by your Honouable House, would inevitably follow the passing of the Bill in its present form, viz.: a retrograde movement in medical science in this country, and the ultimate destruction of the respectability of the profession.

Your Petitioners, therefore, now appeal to your Honourable House, in the confidence that their interests and the public good will be duly considered at your hands, and they respectfully, but earnestly, entreat that, if it be deemed expedient to repeal the Act of 1815, your Honourable House will see the justice of enacting some other law whereby the public may be protected, and the interests and honour of the medical profession efficiently maintained.—And your Petitioners will ever pray, &c.

The good sense and right feeling displayed in this petition appear to us altogether irresistible. The ground of dissent from the proposed bill is our own, and we think it the correct one.

THE LATE TRIAL OF BELANY FOR THE MURDER OF HIS WIFE;

THE VALUE OF THE MEDICAL EVIDENCE GIVEN—THE IMPORTANCE OF EDUCATED MEDICAL MEN TO THE COMMUNITY.

Amongst the eventful scenes annually witnessed in the Courts of the Old Bailey, we can call to mind few of a more painful character, and of deeper interest, than the trial of J. C. Belany for the murder of his wife, a young and beautiful woman, by administering to her prussic acid, which occupied two entire days in the past week.

Our readers have no doubt perused, in the ordinary channels of information, the details of this mysterious case—the admirable address of the Solicitor-General, who appeared for the prosecution—the evidence of the numerous witnesses—the extraordinary letters—the eloquent appeal of Mr. Erle in behalf of the prisoner—the summing up of the judge—and the *verdict of acquittal.* Upon these it does not fall within our province to comment; but, in the exercise of our duty as editor of a medical journal, we cannot pass unnoticed the evidence of the medical witnesses, and its important bearing in

supporting the heinous charge laid to the count of the prisoner.

Medical men have not always appeared to advantage in courts of justice; with the gradual improvement of education, however, they have gone on improving, and the appearance they made on the trial of Belany was to the last degree creditable to them; nothing could be more precise, nothing more free from prejudice or partizanship, than their evidence: and this is precisely what it ought to be. The excellent courses of lectures on medical jurisprudence, which are now an integral part of our medical education, have doubtless contributed in no small degree to this satisfactory result.

The chief points which the medical evidence went to establish were—

1. The generally healthy state of the body of the deceased; the absence of disease of the heart, to which the prisoner had falsely attributed his wife's death; and the real cause, poisoning by prussic acid.

2. The total neglect of any effectual means of restoring the deceased after she was discovered labouring under the effects of the poison, and the prospect of recovery had proper remedies been resorted to.

3. The probability that the poison was put in the way of, or administered to, the deceased by the prisoner.

We have already, in a previous number of this journal, borne brief testimony to the discretion of Mr. Garratt, the surgeon who was first called to the aid of Mrs. Belany, but arrived after her death, in causing a coroner's inquiry to be instituted in this mysterious case. The careful post-mortem examination of the body made by him and by Mr. Curling of the London Hospital, not only proved the absence of any important disease, and brought to light the real cause of death, but excited fears of this discovery in the wretched husband's mind, which it cannot be doubted led him to make a most important statement as to the cause of his wife's decease, and the mode in which the poison was taken.

It appeared by the evidence of the mistress of the lodging house, and of her servant, that the unfortunate lady continued to breathe for more than twenty minutes after swallowing the poison—a period which would have afforded adequate time for resorting to remedies to counteract its deleterious effects. We hesitate not to declare our conviction from this fact, that the quantity taken could not have been by any means an overwhelming dose; and we question whether a case ever occurred to any medical man which offered a fairer chance of recovery, had proper measures been promptly resorted to.

We entirely concur with Dr. A. T. Thomson,* "that if a person lived twenty minutes after taking prussic acid, the probability would be in favour of recovery, if remedies were applied;" and with Mr. Curling, "that so long as the deceased breathed, he should not have despaired of recovering her." Dr. Letheby stated, "I have since made experiments with the prussic acid I got from Mr. Donahoo (the druggist of whom Belany purchased the poison), upon animals, and restored them by the application of ammonia and the affusion of cold water. By those means I restored a cat in ten minutes. I had given that cat between ten and twenty drops. I also tried an experiment upon a horse, to which I administered prussic acid twelve times the strength of the two per cent. acid, and by the same means restored the horse, though it was lying upon the ground in convulsions, and in the incipient stage of death. I continued the remedies for about twenty minutes, and the horse was restored."

Now what were the means employed for the recovery of this poor lady during this period, the twenty minutes before death? Placing the hands and feet in warm water, applying a mustard poultice to the stomach, and bathing the temples with vinegar; and the prisoner said he would bleed her, but she had no pulse. Adopting the favourable conclusion of the jury, our blood boils as we write, to think that a human being was thus cruelly left to perish—that life was allowed by the husband slowly to ebb away when the means of saving his wife were so readily at hand. Nothing could be more decisive than the evidence of the medical witnesses on this point. They all bore testimony to the efficacy of remedies the most easily obtained—such as hartshorn, cold affusion, and artificial respiration; and to the utter inutility

* Times' report.

of the inert means resorted to. As Mr. Curling well remarked, "none but energetic stimulants could be of any service in counteracting the effects of so powerful a poison." And yet the miserable wretch, the prisoner, stood by with a lancet in his hand, prepared, as it appeared, by blood-letting, to guard against the possibility of the unfortunate woman's recovery. When asked by the mistress of the house whether he would not "send for a doctor," he replied that he himself was one. The unhappy wretch is a thousand times more blameable, setting aside all idea of criminal purpose on his part for the moment, than John Garland, who eviscerated Mrs. Dent, by pulling nineteen feet of her bowels out of her belly into a heap under the bed-clothes. He was a "doctor," forsooth! He, the inhuman brute, stood coolly by, looking on at the death agony of his young wife, with his own flesh and blood, in the shape of a child, several months old, under her heart; and only suffered assistance to be brought when it could be of no avail! If Garland were prosecuted and convicted of mal-practice, and punished for his ignorance, why is not Belany proceeded against on a similar ground?

Belany is another instance of a man practising medicine without adequate education, and of the advantages that the public would be likely to derive from the profession of physic being thrown open to all and sundry who had but effrontery and dishonesty enough to set themselves up as practitioners. No one who has gone through the course of study now required of medical men, and who has solemnly been charged with the responsible duties of the practitioner, could by possibility be found to behave as this man did.

Before commenting on that part of the medical evidence which tended to show the probability that the poison was put in the way of, or administered to, the deceased by Belany, it is necessary to remind our readers that the prisoner, in the communication to Mr. Garratt, made after the discovery of the cause of his wife's death, stated "on the previous Saturday morning he was about to take some prussic acid, which he was in the habit of taking for an affection of the stomach, and was endeavouring to remove the stopper from the bottle; and as he had some difficulty, he used some degree of violence to it with the handle of a tooth-brush, and the consequence was the breaking the neck of the bottle. Some of the acid was spilt; the remainder he put into a tumbler, and placed on the drawers at the end of the bed-room." The prisoner then said, "I went into the front room for the purpose of getting a bottle wherein to place the acid. Instead of doing so, I began to write some letters to my friends in the country. I had been there but a few minutes when I heard a scream from the bed-room. I immediately went in. My wife exclaimed, 'Oh dear! I have taken some of that hot drink; give me some water, some cold water!' She immediately became convulsed." It also appeared that the prisoner stated, that "when he entered the bed-room his wife told him what had occurred, and that he took the tumbler from which she had drunk the poison out of her hand."

We shall now extract from Dr. Letheby's evidence that part where he says—"I have made numerous experiments with prussic acid upon the lower animals. The first effect which the administration of prussic acid produces upon the lower animals is the appearance of a peculiar giddiness, of a disposition to run round, as if the head was affected; then the respiration becomes irregular; subsequently there is a scream. Perhaps before that scream is uttered the animal drops, at the same moment, after two or three violent respiratory efforts, which produce a cry, a shriek, or a scream; convulsions follow, with foaming at the mouth; and in a longer or shorter time, according to the quantity of the acid administered, death ensues. I have not had an opportunity of seeing its effect on the human subject. After the shriek or scream, all sensibility and volition ceases. In my judgment, a person after giving that shriek would not be able to walk or converse."

Dr. Thomson, who was the next witness examined, remarked:—"The effects of taking it are those which have been so clearly explained by the last witness: giddiness, faintness, convulsions resembling those of tetanus or lock-jaw, and screaming. When the symptoms have advanced to a scream, the powers of volition are gone. After

the scream it would be impossible for a party to talk, so as to describe what had happened."

The evidence which we have just adduced, founded chiefly upon experiments made on the lower animals, could not fail to make a stronger impression on the minds of professional men than on those of persons unacquainted with medicine and the action of poisons. To us, well initiated in these subjects, the prisoner's statement appears wholly unsatisfactory and improbable; but we are not surprised at the Judge, after pointedly inquiring of the medical men examined, whether they had ever witnessed a case of poisoning by prussic acid, and receiving a negative reply from each of them, observing to the jury, "The medical men had told the jury, that with the scream that was spoken of all volition and power of speech would cease; but then it must not be forgotten that the judgment of these gentlemen must be tempered with this caution, that none of them had ever witnessed the effects of prussic acid on the human body;" a hint sufficient to impair in no slight degree the weight of evidence, which we have reason to believe was not given without the most anxious and careful consideration of the subject.

In further proof of the improbability of the prisoner's statement, was adduced the striking circumstance, that the landlady and servant who entered the small room in which the deceased lay, detected no peculiar smell, although, if his account be true, some acid was poured into a tumbler, and left for a few minutes in the room. Dr. Thomson stated, "the smell of prussic acid is very peculiar. If any be spilled in a room the odour remains a considerable time, unless there is much movement in the air of the room. If it were in a tumbler the odour would be strong—if it were lifted to the top the odour would be perceived." We have tried the experiment; we have poured a small quantity of the acid (Scheele's preparation) into a tumbler, and after leaving it for five minutes in a small room, have entered the chamber, and we could scarcely believe it possible that any one possessing the ordinary sense of smell could fail to notice the remarkable odour pervading the apartment. We think, then, the absence of all odour of the acid strongly corroborative of the other points which impugn the truth of the prisoner's statement. Had the poison been mixed with the solution of Epsom salts in the adjoining room, carried into the bedroom, and immediately swallowed by the deceased lady, scarcely any smell would have arisen.

There is one point in Dr. Letheby's evidence, which, we think, was either not rightly understood, or not quite rightly used. In his cross-examination by Mr. Erle, he states, "prussic acid is one of the easiest poisons to detect after death." Now, whilst we admit that this is the case *immediately* after death, we know that prussic acid both evaporates so quickly, and so readily suffers decomposition, that we much doubt whether it could be detected in the stomach, even at the end of a few days after death. At any rate, arsenic, the mineral acids, and many other poisons, if not more easy of detection than prussic acid, are yet more permanent, and to be detected after a much longer period. Dr. Letheby probably did not perceive the bearing of the question put to him, and therefore did not answer it in a way that was calculated to elicit the truth. His reply, at all events, was made a point of by the Judge, who in his charge certainly omitted no circumstance which could tell in favour of the prisoner; but desired the attention of the jury to it particularly, as it was unlikely that a medical man, contemplating the circumstance of murder, would have selected for his purpose "one of the poisons most easy of detection." We think that he who has knowledge of poisons would select that which he knows to be most speedy and most certain in its operation; which produces sudden death, and whose effects to ignorant by-standers would look like what they conceived to be "a stroke," or a disease of the heart, when told so, that disease being rendered the more likely by family predisposition: a momentary struggle, and six feet of cold earth to make all snug, would be the poisoner's maxim; and prussic acid, backed by the Eastern Cemetery, are the precise elements required. Baron Gurney was certainly wrong in this inference. Had he been a medical man, he would have used the very point which he made a principal means of saving the prisoner at the bar, as one of the principal and most powerful means of condemning him.

We have now adduced the chief part

of the medical evidence for the prosecution, which tended to inculpate the prisoner, and we leave it without further comment. We have no space to analyse the other important evidence and numerous facts adduced at the trial, which influenced the jury in the decision to which they arrived. Although the indictment was not sustained, we believe that this prosecution, which we feel bound to say was most fairly and impartially conducted, cannot fail to promote the ends of public justice: a person was destroyed by a subtle poison; a studied attempt was made to conceal the cause of death; that attempt was defeated, and the cause revealed by the searching inquiries of skilful medical men. In fine, we say: *Let the commnnity see to it, that they secure themselves in the presence of well-educated practitioners of medicine.*

REPORTS OF CASES
OCCURRING AT
THE WESTMINSTER HOSPITAL:
WITH REMARKS.

By B. Phillips, Esq. F.R.S.

Very severe Fracture of both Thighs and Legs, followed by Tetanus.

Thomas Terry, æt. 16, was admitted into Northumberland Ward on the evening of Friday, May 17. He had been assisting in shifting timber in a barge, and was struck down by the swinging of a large piece. The injuries he suffered from the accident were very severe. He was immediately brought to the Hospital, and seen by Mr. Phillips: he found the lad cheerful and uncomplaining. Upon examination, it was found that he had sustained a simple fracture of each thigh at its middle third, and a compound fracture of each leg below its middle. In the legs, the injury done to the soft parts was very great; a good deal of blood was lost; the bones were protruding and broken into many fragments. The pulse was scarcely perceptible, and the surface of the body was rather cold, but the intelligence was perfect.

A consultation was held on the case, and the decision come to was, that, although the injury done to the legs was probably too great to be repaired, yet his present condition did not warrant amputation.

He was then placed on Earle's bed, the limbs in a double-inclined position, and the legs maintained in their position by means of junks and pillows. The state of collapse was combated by means of warm brandy and water, but for some hours there was no evidence of rallying; when slight reaction became apparent, he complained of pain, and he was then ordered a draught containing ʒi. of brandy, and ℥xxv. of Battley's solution, warmth to the feet, &c.

He passed a tolerably quiet night, but there was much lassitude in the morning. It was evident that the left foot was dead—circulation had ceased in it, and it was cold and discoloured. The right foot was warm and natural. He took gruel and tea during the day, with some brandy, and the same dose of Battley at night. He slept at intervals during the night, and held his ground. The left leg being more painful on Sunday, a large poultice was laid over the bandage, and it lessened the pain. The same kind of food was taken during the day, and the draught at bed-time.

On Monday morning he reported himself as being better, and expressed a desire for food—"a soft boiled egg, and salt;" this was taken with appetite, and during the day he had another beaten up with his tea. To-day the right foot became cold, discoloured, and vesicated. The bandages were removed, and a poultice laid over that also.

Rept. Haust. h. s. s.

On Tuesday the report was favourable, but the tongue was loaded with a whitish fur; the bowels had not acted since the accident. A pint of warm water was administered as an enema, and a copious evacuation followed.

Cont. Food and Draught as before.

On Wednesday there was a sensible improvement. The tongue was much cleaner, the desire for food greater, and the pulse 92; the legs discharging freely. The food taken was milk, beef-tea and two eggs, with some brandy; and his draught at bed-time.

Thursday.—His countenance is improved; he is more cheerful; tongue tolerably clean; pulse 88.

Rept. Med. &c.

Friday.—Much the same. The process of separation is fairly established.

Cont. Med.

Saturday.—The bowels being still confined, an enema of warm water was again administered.

Sunday.—Passed rather a restless night, complaining of pain in the leg and thighs.

Cont. Med. and Food as before.

Monday.—Has not slept during the night; countenance anxious; bowels relaxed, and the stools very offensive.

℞ Tr. Opii, ℥xl.; Mist. Cretæ Comp. ʒvj. M. ʒj. 3tiis horis sumend. and to have Brandy ʒij. in addition.

Tuesday.—Slept at intervals during the night; diarrhœa still continues; complains very much of the pain in the thigh.

To have the Draught at bed-time, with Solut. Morphiæ Mecon. ℥xx. in addition.

Attacked during the night with slight tetanus, which gradually increased during the day.

℞ Hyd. Chloridi, Opii Gum. aa. gr. j.; Ft. Pil. 2ndis horis.

Wednesday. — Bowels relaxed; spasms still continue.

To omit the Calomel and Opium, and take Tr. Opii, ℥xx. omni hora.

Thursday.—The spasms are less violent than yesterday, but there is difficulty in swallowing. The tetanus continued during the day and night, and he died on the morning of Friday.

Remarks. — It is very rarely that a patient survives for many days such severe injuries as were sustained by this poor lad. The condition of either leg of itself, and in the absence of any other complication, would have justified immediate amputation, but the amount of injury altogether was so great, the powers of life so shaken, and the pain comparatively so inconsiderable, that it was thought proper to give him time to rally, and there appeared reason to hope that his youth and stamina might have enabled him to bear up against the shock. However, when the irritation consequent upon the work of separation was set up, the pain increased, his nervous system became too excited, and tetanus was developed, which destroyed his life within three days of its manifestation. Calomel and opium, of each a grain, were exhibited every two hours: after eight doses the bowels became relaxed. The opium was then continued every hour alone. At no period were the spasms so violent, at no time was the mouth so closed, as to prevent his taking food; still the progress of the disease was not retarded by the absence of spasmodic action, and there was no narcotism.

In the last case of tetanus treated at this hospital, cannabis was largely used, and extract of belladonna, so as to develope its poisoning effect, but they exercised no influence in arresting the progress of the disease.

Dense Cyst over Patella extirpated.

Jane Wishart, æt. 27, housemaid, admitted under Mr. White in June 1844, having an enlarged bursa situate over the ligamentum patellæ the size of an egg. She states that two years previously there was a similar swelling on the same knee, which was blistered, and a variety of other means used, for its dispersion, but without effect. At length, from the great inconvenience it occasioned her, she had it removed by the knife; and that between three and four months afterwards, she again had pain and swelling on the knee, which have been gradually increasing.

Upon her first presenting herself, which was several weeks before her admittance into the hospital, the knee was treated by blistering, &c. but without any decrease in the size; the cyst was then injected with a solution of iodine, but without effect. The patient wishing to be freed from it, was taken in, at her own request, to have it removed by operation. On the Saturday after her admission, Mr. Phillips made an incision immediately over the tumor, and dissected it completely out; there was no bleeding, and the wound was brought together by strapping, &c. The patient has gone on very well since, the wound has completely healed, and she is discharged cured.

Remarks.—This case is curious. It seems that a few months ago the bursa over the patella was dissected out, it is said completely, and yet in that short period of time, although she had knelt but little in the interval, a new bursa, with very dense walls, an eighth of an inch thick, is developed. Supposing the statement to be correct as to complete extirpation on the first occasion, the case is unusual; but if only a portion of it was removed, then the singularity is much lessened, because we see similar results elsewhere. The resistance offered to the development of inflammatory action upon the injection of a strong solution of iodine, and the density of the walls, leads us to the belief that the sac was an old one. Not long since we had a somewhat similar cyst over the popliteus muscle, which resisted several blisters, and other counter-irritants, but it immediately yielded to iodine injection.

CORRESPONDENCE BETWEEN THE PRESIDENT OF THE COLLEGE OF SURGEONS & SIR W. BURNETT.

We have been requested to insert the following Letter from Mr. Andrews, President last year of the College of Surgeons, to which that of Sir William Burnett, published in our last, has particular reference.

College of Surgeons, March 14, 1844.

The Council of the Royal College of Surgeons of England have been sensible from the beginning that the task imposed upon them by the new charter of selecting a limited number of members to be placed in the list of fellows, was one of considerable difficulty, in the execution of which, however great might be their care and circumspection, it was impossible for them to avoid leaving many persons more or less dissatisfied with their proceedings. They have done what was required of them to the best of their ability; and at any rate they feel conscious that they have used their endeavours to make the selection altogether on public grounds, without favour or prejudice, and

uninfluenced by private motives; and they are glad to avail themselves of this opportunity of explaining the principles on which they have acted.

It is well known that the great majority of the members of the College of Surgeons are less engaged in the practice of surgery than in that of medicine, or pharmacy, or midwifery, and that many of them have arrived at great eminence in these other departments of the medical profession.

But the Council, keeping in view the objects for which the College was especially established, were led to believe that in the nomination of fellows it was their duty to regard chiefly the qualifications of members as practitioners in surgery, or as improvers of those sciences which tend to the advancement of surgery, and to look to such qualifications as giving the best claims for admission to the fellowship.

1. In accordance with these views they first placed in the list of fellows the surgeons of all those hospitals in England and Wales which are recognized by them as schools of surgery; and they did so, knowing that the surgeons of large hospitals, as a body, have the best opportunities of experience in surgery, and that they are the persons principally consulted in private practice in surgical cases.

2. But they found that in several parts of the kingdom there are persons having considerable reputation as surgeons, and called into consultation on surgical cases by the practitioners in the neighbourhood, although they have no connection with hospitals, and the Council thought it their duty to place the most eminent of such persons in the list of fellows also. Some of the individuals already nominated are of this description; and there are others whose names may properly be added before the expiration of the first year from the date of the charter. It is plain that in the execution of this part of their duties great circumspection is required, lest improper names should be inserted and proper ones should be omitted.

3. Not being themselves well acquainted with the qualification of military and naval surgeons, and being at the same time unwilling to overlook the claims of this meritorious class of practitioners, the Council allowed Mr. Guthrie, who at that time filled the office of president, to apply for assistance to the heads of their respective departments, Sir James M'Grigor and Sir William Burnett, and also to the chairman of the Court of Directors of the Honourable East India Company. The Council have no means of knowing the exact terms in which Mr. Guthrie made the application, but they did not doubt, at the time, that he requested to have a list of such medical officers in the public service as were the most distinguished for their surgical attainments. Soon afterwards they received communications from each of the above-mentioned gentlemen, recommending several persons as fit to be nominated as fellows; and the Council, without further inquiry, adopted these recommendations, admitting every one of them to the fellowship.

4. There being in London several practitioners in surgery, who, though not connected with hospitals, were considered as eligible to the Council under the former charter, and according to the usages which then prevailed, the Council thought that they were called upon to admit them also to the fellowship. If they had neglected to do so, these gentlemen would have complained that they had been hardly dealt with, in being, without any fault of their own, deprived of their ancient privileges.

5. Some individuals have been admitted as fellows, not on account of their reputation as practical surgeons, but as having distinguished themselves by their investigations in the kindred sciences of natural history, anatomy, and physiology. One of these is Mr. Owen, the distinguished conservator of the museum of the College. Another is Dr. Mantell, the eminent geologist and zoologist; a third is Mr. Gulliver, an assistant-surgeon in the Household Brigade, a Fellow of the Royal Society, and the author of some important physiological papers, which have been thought not unworthy of being published in the Philosophical Transactions; and a fourth is Mr. Newport, a practitioner in pharmacy as well as surgery, who has received the Royal Medal from the Royal Society, and is the President of the Entomological Society.

6. A very few other names have been inserted in the list of fellows, for special reasons; being principally those of teachers of anatomy, midwifery, or some other branch of medical science, who had been recognized as such by former acts of the Council.

The Council are ready and willing to add to the list of fellows the names of any officers in the public service who are distinguished for their surgical or scientific attainments, which have been overlooked formerly, as soon as they have obtained the information which is necessary for the purpose. That they have no wish to do otherwise is sufficiently proved by the nomination of Mr. Gulliver.

After they received Sir James M'Grigor's communication, the Council found that he had omitted altogether two departments of the army; namely, the Ordnance, and the regiments of Guards. The Council, without any application having been made to them on the subject, have already nominated as fellows some of the surgeons of the Ordnance, and they will think it their

duty to inquire which among the surgeons of the regiments of Guards are the most deserving of the same honour. But the Council cannot accede to the demands made by Sir James M'Grigor and Sir William Burnett, the effect of which would be to throw the whole management of the College into the hands of the military and naval surgeons, or rather of those to whom, as the heads of their respective departments, these gentlemen are accustomed to look for patronage and promotion.

(Signed) JOHN GOLDWYER ANDREWS,
President of the Royal College of Surgeons of England.

MIDWIFERY CASES.

NOTE FROM DR. F. H. RAMSBOTHAM.

To the Editor of the Medical Gazette.

SIR,

IN the last number of the GAZETTE there is a note from Mr. Waddington, relative to the summary of cases that occurred under my superintendence in the Eastern district of the Royal Maternity Charity, which lately appeared in your valuable periodical. Mr. Waddington rightly states that in the last twelve years 26,776 women were attended, and that the number of those delivered by the forceps was only 34, "*being less than one in every 787 cases;*" and he concludes by asking, "can this be correct?"

For Mr. Waddington's satisfaction, I beg to assure him that the tables from which he has taken his calculation are *perfectly correct;* and that although the generality of the women relieved in my district are not delivered under my own immediate observation, such arrangements have been made as to prevent the possibility of any unusual occurrence happening during the labour of any of them without my cognizance.

I am, sir, your obedient servant,
FRANCIS H. RAMSBOTHAM.

14, New Broad Street,
August 24, 1844.

UNIVERSITY OF LONDON.

FIRST EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICINE—EXAMINATON FOR HONOURS.

The names are arranged in the order of Proficiency.

ANATOMY AND PHYSIOLOGY.

Cadge, Wm. *(Exhibition and Gold Medal)*	University College.
Copeman, Arthur Charles *(Gold Medal)*	King's College.
Hicks, John Braxton	Guy's Hospital.
Fotherby, Henry Isaac	Guy's Hospital.
Greenwood, Wm. Henry	Guy's Hospital.
Elam, Charles	Leeds Sch. of Med.
Ody, John	King's College.
Duncan, Peter Martin	King's College.

CHEMISTRY.

Grimsdale, Thomas Frederic *(Exhibit. & Gold Medal)*	University College.
Ody, John *(Gold Medal)*	King's College.
Greenwood, William Henry	Guy's Hospital.
Copeman, Arthur Charles	King's College.
Matthew, Charles Reeve	University College.
Hicks, John Braxton	Guy's Hospital.

MATERIA MEDICA AND PHARMACEUTICAL CHEMISTRY.

Hicks, John Braxton *(Exhibition and Gold Medal)*	Guy's Hospital.
Greenwood, William Henry *(Gold Medal)*	Guy's Hospital.
Fotherby, Henry Isaac	Guy's Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Gentlemen admitted Members on Friday, Aug. 2.—H. Bunn.—M. O'Grady.—R. Fowler.—J. B. Hallinan.—J. E. Brine.—J. F. Clark.—J. Hope.—D. Davies.—S. B. Gwynn.

Aug. 16.—W. Carey.—F. H. Duffort.—F. C. G. Ellerton.—G. Walker.—W. Box.—J. Bourne.—E. Lawless.—J. Terry.—W. W. Kemp.—H. Bencraft.—H. B. Pickess.

APOTHECARIES' HALL.

Gentlemen who have obtained Certificates, Aug. 15 — Richard Hodges, London.—Henry James Shirley, London.

Aug. 22.—J. A. Walmesley, Hodnet, Salop.—H. Billinghurst.—T. S. Lee, 2, Upper Gordon Street, Euston Square.—W. Sheppard, Swindon, Wilts.

MORTALITY OF THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, August 17.

Dropsy, Cancer, Diseases of Uncertain Seat	100
Diseases of the Brain, Nerves, and Senses	158
Diseases of Lungs and Organs of Respiration	216
Diseases of the Heart and Blood-vessels	31
Diseases of Stomach, Organs of Digestion, &c.	91
Diseases of the Kidneys, &c.	8
Childbed	4
Paramenia	0
Ovarian Dropsy	1
Disease of Uterus, &c.	1
Arthritis	0
Rheumatism	3
Diseases of Joints, &c.	4
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.	1
Old Age or Natural Decay	41
Deaths by Violence, Privation, &c.	21
Small Pox	58
Measles	21
Scarlatina	68
Hooping Cough	8
Croup	4
Thrush	8
Diarrhœa	40
Dysentery	6
Cholera	4
Influenza	1
Ague	0
Remittent Fever	1
Typhus	26
Erysipelas	6
Syphilis	0
Hydrophobia	0
Causes not specified	1
Deaths from all Causes	932

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LECTURES

ON THE

NATURE AND TREATMENT OF DEFORMITIES,

Delivered at the Orthopædic Institution, Bloomsbury Square.

By R. W. Tamplin, F.R.C.S.E.
Surgeon to the Institution.

Until a recent period deformed patients were left almost entirely in the hands of mechanists, and it is, as you are aware, but a very short time since the scientific treatment of deformities was introduced into this country. It is not more than twenty-eight years since the principles on which we are now successfully treating deformities were practised by Delpech, and afterwards published, so that time has not yet elapsed for this treatment to have become general; nor can opportunities have presented themselves for a very extensive field of inquiry, save at institutions especially devoted to the treatment of deformities, and perhaps at the large hospitals of the metropolis. And here I cannot omit to mention the benevolent exertions of Mr. Quarles Harris, who, having experienced relief in his own family, devoted himself to the formation and support of this Charity, for the benevolent purpose of extending the same benefits to the poor, which he knew the rich could command. It is to Mr. Harris's unceasing benevolence and unwearied exertions that we are indebted for its present existence.

By the term deformity is meant any and every deviation from the recognised symmetrical proportions of the human frame; but the word is more definitively applied to those irregularities of form which consist in a partial deviation from the natural position of the body, unaccompanied by malformation of the general original structure. I may here observe that it is probably to a conviction on the part of the profession that club feet are actual malformations, that we are to ascribe the unaccountable fact of this species of distortion having almost to the present day been left without rational or truly scientific attempts made to remedy it.

This, however, is one of those useful lessons that teach us the necessity of perpetual study, and remind us that however great the advances already made, the field of inquiry is still open and inexhaustible; that the healing art is not one in which we can ever rest supine, but, on the contrary, that it calls for constant activity and unwearying perseverance. It must be continually borne in mind that science is ever progressing, and that it is the duty of every worthy member of the profession diligently to search out, and impartially to investigate, any new system which has for its object the alleviation of human suffering, notwithstanding its departure from the trodden path of established practice. True it is, that there are, and ever will be, "Will-o'-th'-Wisps" presenting themselves under every form of quackery, and that it behoves us to use every effort to distinguish the true from the apparent, the essential from the ideal; yet must we never be deterred by timidity or prejudice from endeavouring to advance the science of which we have the honour to call ourselves professors. I say honour, because there is no higher pleasure, no greater distinction, no more exalted exercise of the human mind, than that profession which has for its object the benefit of our species, and the mitigation and removal of those ills to which all of mortal birth are subject. To the visitation of deformity this remark applies with double force, for the deformed have been regarded as loathsome in body and depraved in mind; they have often isolated themselves from their fellow creatures; persecution of them has even been sanctioned by the Mosaic ceremonial, which admitted the unblemished alone to the dignity of the priesthood. Possessing all the

feelings, and susceptible of all the impulses which animate the breast of man, frequently morbidly sensitive from the consciousness of their deformity, adorned with genius, gifted with wit, graced by fortune and by birth, crowned with learning,—still is the deformed man exposed to the derision of the heartless, and is shut out from the world simply because nature has played some freak by which he differs from his fellow mortals.

Nevertheless, history records the names of many whose spiritual excellence overcame their bodily deformity: Socrates, Æsop, Alexander the Great, whose head is said to have inclined slightly to the left shoulder, the illustrious Lord Burghleigh, Pope, Talleyrand, Sir Walter Scott, Flaxman, and Byron, were all deformed in different degrees. I believe the sole instance recorded by the classic poets of female deformity is a woman named Kutila, who lived to be a hundred; she is spoken of by Pliny, and also by Juvenal. A facetious Englishman, named Hay, has written an Essay on Bodily Deformity, in which he good-naturedly and sensibly vindicates those labouring under such an infliction from the stigma so ungenerously cast upon them. He was himself deformed.

It is my intention in the ensuing lectures to confine myself as much as possible to facts; for facts alone can be of service in the present condition of our knowledge of deformities. Theory is undoubtedly useful, but it too frequently by its false colouring destroys or obscures the principal objects that ought to be kept in view, and withdraws our attention from that which is really useful, to that which exists only in the imagination, and which not unfrequently impedes the progress of the subject with which it is connected.

It must be evident that to advance the theories that must occur to the minds of those who have had numerous opportunities of practice in one or other of the branches of surgery, would be to clog and encumber it to the apprehension of those who have not possessed similar advantages; and they will derive much more useful information from facts themselves. For in what does the knowledge of surgery consist? If analysed, we discover that it is an accumulation of facts handed down from one generation to another.

The principles laid down by Delpech, in his Orthomorphie, published at Paris in 1828, are comprised in the following rules:—

1st. "A tendon to be divided must not be exposed; and its division should be made by turning the instrument on one side, so that the line of the incision may not be parallel to the division of the skin; without this precaution risk of exfoliation of the tendon is incurred."

2nd. "Immediately after division of the tendon, the divided ends should be brought into contact with each other, and kept in this position by a suitable apparatus during the entire period necessary for their union."

3rd. "Inasmuch as it can only take place by the intervention of an intermediate fibrous substance, this substance, before it has become firm, can, and should be, extended gradually and carefully, until it has assumed a degree of length equal to the shortened muscle."

4th. "When this degree of extension has been effected, the parts should always be fixed in the position, and kept so until the new substance has acquired its requisite degree of consolidation."

These, gentlemen, are the principles upon which we are now acting, and from which we depart but in the slightest degree; they embody the entire doctrine of the treatment of deformity, and have only to be followed out carefully to insure success. There can be no question that had Delpech been spared to enjoy the common number of years allotted to man, he would have extended to every variety of deformity the new views which he so graphically announced. It was not only in deformity in the feet, and the physiology of the division of tendons, that Delpech shone so conspicuously, but also on lateral curvature of the spine and on dislocations of all kinds, on which subjects his works must be considered as second to none in originality and in correctness of principle. It is gratifying to find, that Stromeyer, who has been fortunate enough to extend the treatment of the distinguished surgeon of Montpellier, has generously acknowledged the merits of Delpech; for he says, "Although the division of tendons has been recommended long since as a mode of removing certain contractions, yet the credit of having set this operation on a proper scientific basis undoubtedly belongs to Delpech, inasmuch as he showed the peculiar advantages derived from a new fibrous substance between the divided ends of the tendon, thus giving to this method of operating its true practical value, and enabling us to avoid rendering inactive the muscles whose tendons have been divided:" an acknowledgment on the part of Stromeyer which does equal credit to his head and heart. In his work "On Operative Orthopædic Surgery," Stromeyer observes—"Delpech laid it down as a rule, that the surgeon should encourage the formation of sufficient substance between the two divided ends of the tendon to maintain the function of the muscle, and should not destroy the new union by immediate extension, but commence extension some days after the operation: this rule is most important for the safe performance of orthopædic operations, and its value should be duly estimated. The

idea that the elongation of the muscle is effected through the cicatrix is a false one. The extent of the substance or cicatrix is quite inadequate for this purpose. In some cases of pes equinus the gastrocnemii are two or three inches too short; and, in wry neck, the sterno-mastoid is equally short, yet the cicatrix, after the cure, is but a few lines long. The elongation of the muscle must be effected in these cases at the cost of its contractility, and thus the incision of its tendon acts not only on its mechanical, but also on its vital properties, and, by the temporary diminution of its irritability, its contractile power is diminished, and any increase of it prevented. This view is confirmed by observations made in cases where the tendons of sound muscles have been lacerated. The following is an instance :—A medical man, of lax fibre, ruptured his tendo-Achilles seven years ago, and, in spite of the injury, walked about a few days afterwards; at the present time he walks about, dragging his leg after him, like a paralytic man, although the cicatrix is only a few lines long, and would be only considered as likely to produce any lameness in those motions which require forcible contraction of the calf. The injury and subsequent want of use have evidently here caused a loss of power in the calf, which, in his feeble condition, could not readily be restored. It is a remarkable circumstance, that when the tendo-Achilles unites in an imperfect manner after injury, the foot is not drawn up by the flexor muscles, but hangs like a loosely connected part, shewing that the diminished irritability of such a mass as the calf of the leg exerts a weakening influence on the entire extremity. That any person should commence extension immediately after the operation, and attempt to restore the limb to its natural position, using, like Sartorius, a degree of violence which makes us shudder to think of, is neither necessary nor advisable."

"The immediate restoration of the limb in its natural position is not to be recommended, for by extension before the healing of the wound in the skin, the parts are liable to inflame or suppurate: by gradual extension, the contractility of the muscle, the tendons of which have been divided, is interrupted for a time, and restored by the stretching and motion of the parts when the foot is again used. In all my cases," adds Stromeyer, "of division of the tendo-Achilles, the use of the muscles of the calf has been completely restored. Dr. Weiss informs me that, at Paris, the use of the muscles of the calf is not always restored. This may probably depend on the immediate separation of the ends of the tendon, which does not prevent its healing, but hinders the restoration of the functions of the part; it is also possible that, by the extension of the intervening substance, which, from immediat extension, is very thin, the cicatrix itself may be lacerated." The views of Stromeyer are, I believe, on the whole correct. I am of opinion, however, that the new substance will and does admit of sufficient extension to compensate for the greatest amount of shortening met with in any deformity; for I have repeatedly, in cases of talipes equinus, found the new connecting medium full two inches in length within three or four weeks following the operation, especially in those cases where there is no resistance in the joint, and where the foot admits of being rapidly brought into its normal position. Again, how often is it that, in fracture of the patella, or in rupture of its ligament, the new and permanent uniting medium is full three inches in length, sometimes more, and sufficiently strong itself, were it not that the muscle, from its greatly increased length, loses its power of action. I was lately consulted by a gentleman who, six months previously, had ruptured his ligamentum patella. He was kept at rest, and the patella held well in position for six weeks; at the end of that time he was allowed to use the limb. For the first few days he walked with comfort, feeling but little inconvenience; by degrees, however, he experienced great weakness, and found his knee-cap, to use his own expression, rising and getting high. No means were adopted to prevent it, and the uniting medium has become gradually elongated to the extent of two or three inches, through the constant extension kept up by the action of the rectus and crurus muscles: the new substance is firm and strong, and the patient is enabled to walk with ease on level ground, but is totally incapable of extending the leg sufficiently to walk up a steep hill, or up and down stairs, without, in ascending, drawing it after him step by step, and, in descending, placing it first on each step, and bringing its fellow down to it. I have not the slightest doubt that, had the extended position been maintained for three or four months, until the new matter had become consolidated, and had degenerated, so to speak, into a permanent cicatrix, that no ill consequences would have followed. It is true, as a general rule, that the cicatrix, after the cure is effected, measures but a few lines, oftentimes only a line, in the thickness, provided proper care has been taken during the treatment, which arises from the circumstance, that every new substance, after it has fulfilled the purpose for which it was generated, viz. the restorative process adopted by nature to remedy any wound or injury, loses its vascularity, except so far as is necessary for its individual vitality, contracts upon itself, and draws with it, if unrestrained, the part with which it is connected, as in the painful distortions so frequently

witnessed in burns on the neck and face. In the foot I have found the permanent cicatrix full two inches in length (after the operation for talipes equinus); and a worse distortion produced, viz. the talipes calcaneus valgus, where the foot was placed in position immediately after the operation, and kept for a long time in the flexed position: this position was not, however, maintained, except during the exercise of volition. The elongation in congenital cases, and also in non-congenital cases, of young subjects, is undoubtedly effected eventually at the cost of the contractility of the muscle, but not primarily; this is a secondary result, for no new uniting medium can by possibility possess the power of drawing down the muscle any more than the newly formed granulations following a burn can do; the cicatrix, as it contracts, certainly does so, but after the foot is brought into position, and hence the linear cicatrix. The force of the contraction of a cicatrix is sufficiently evident in the instances of burns alluded to, not only to draw down and overcome one muscle, but even a set of muscles—as the extensors of the head and neck, or of the arm, and other parts. I have had two opportunities of examining the condition of tendon (that had been operated upon during life) after death; the one was a boy about seven or eight years of age, in whom the tendo-Achilles was divided for complete talipes equinus, the heel being elevated to its full extent: he was of weak, delicate, and unhealthy constitution, and the foot was brought into position three or four weeks after the operation: the uniting medium was at that time nearly two inches in length, soft, yielding, and exceedingly weak. It gradually, however, strengthened, contracted upon itself, and became as strong, to all appearance, as the original tendon, nor could any irregularity or thickening be detected. Twelve months after the operation he was attacked with scarlet fever, of which he died. His father informed me of it, and offered to allow an examination. On examining it externally, no trace of its having been divided could be detected; it possessed the same prominent uninterrupted outline as its fellow; the point of puncture could with difficulty be detected. On removing the skin and cellular tissue, there was no evidence of a wound having been inflicted, no adhesions, thickening, or swelling, and on laying open the sheath the tendon presented one uniform and natural appearance, so much so, that one was almost led to doubt the possibility of its having been divided. I then made a longitudinal section, but could discover no alteration with the naked eye, except a sort of globular appearance in one spot, but not sufficiently differing from the tendon itself to make us positive. The other was a congenital case of talipes varus, in a child of eight months of age when operated upon, and who died from hooping-cough and head affection eight months after the operation. The tendo-Achilles, the anterior and posterior tibial tendons, had been divided. The same perfection existed here, and, at the examination, no trace of any kind could be detected, in appearance or by sense of touch: I was fortunate enough to obtain the tendon, which you can examine for yourselves. That the division and reunion of the tendon acts on the vital properties of the muscle, and, by diminishing its irritability, lessens its contractile power, is to me doubtful, and will not apply, as far as my observation goes, to any permanent contractions, for in these cases we have no evidence whatever of irritability of the muscle existing at all. In spasmodic contractions, however, where the exciting cause still exists, it may have that effect, but of this I have seen no proof. If disconnecting the muscle and tendon, and allowing the former to contract upon itself, thus destroying altogether its power of control, be an evidence of this influence, well and good; but in those cases of spasmodic contractions where the division of the muscle has been effected, and the limb more easily held in position, yet, as the newly formed substance gains strength, the same irritability and spasmodic tendency exists upon any attempts to exercise the voluntary power; nor have I seen an exception to this. An old gentleman, seventy-two years of age, consulted me about a spasmodic contraction of his great toe, which, after walking a short distance, inconvenienced him so much, that he was willing to submit to any operation for relief. I first divided the long flexor in the sole of the foot, and for fourteen days he could walk without the contraction being produced, although he experienced the same sensation of contraction of the muscle. As soon as the new uniting medium was sufficiently strong, down went the toe as badly as ever. I then divided it beneath the first phalanx, which effectually prevented a return of it, but not in the slightest degree was he relieved from the sensation of spasm; nor can I understand upon what principle the irritability of a muscle can be relieved by a division of its tendons, as the nervous supply is from above, not below.

The debility arising in the case of the medical man mentioned by Stromeyer was caused, in my opinion, from too early use. The circumstance of the foot hanging like a loosely connected part, after imperfect union of the tendo-Achilles, arises in consequence of the balance of power being destroyed betwen the flexors and extensors; the flexors being weakened from want of the opposing power necessarily exercised during the time the gastrocnemius retained its natural condition, the foot, of course, would not remain flexed except during the exercise

of the will. It appears, therefore, that Delpech and Stromeyer are both correct with regard to the condition of the new substance, and it is only a question of time whether the tendon be examined within a few weeks, or after the cicatrix has become confirmed in its position.

Von Ammon (*De Physiologiâ Tenotomiæ*) gives the following account of the union of tendons :—When a tendon is divided a slight degree of pain occurs, but no spasm of the part. In a short time a gap is produced by the contraction of the divided tendon, the principal part of the contraction taking place in the part of the tendon above the division.". This gap is soon filled up with blood, which, he says, chiefly flows from the upper end of the divided tendon. This blood soon coagulates, and in this process unites firmly with the surrounding parts, and more especially with the wounded surfaces of the tendon, the ends of the tendon presenting at this time an appearance as if they had been tied round with a thread. The next change consists in the effusion of coagulable lymph beneath the effused blood, from the surrounding tendon and adjacent parts; this lymph becoming soon marked with conical and thread-like streaks of a white colour, which extend from the two divided ends of the tendon, and seem to shade gradually into each other. This soft substance thus thrown out, instead of remaining as a pulpy semi-transparent mass, soon becomes connected into a structure which resembles, to a certain degree, the structure of tendon. This substance is not, however, true tendon in structure, although it exercises the same functions: on the surface and in smoothness it resembles tendon; but it differs from it in presenting, in its early stage, a substance of an udder colour, and of a more compact form, and afterwards presenting a more blue colour than real tendon. The motions of this new substance are more confined than those of real tendon, partly on account of its want of elasticity, and also from its adhesion to the surrounding parts. This new substance is formed in about fourteen days. It may not be uninteresting to lay before you the first case Delpech operated upon, on the 9th of May, 1816, which is related with so much simplicity, truth, and candour. A magistrate of Montpellier consulted Delpech about a congenital deformity in the foot of his son, a boy nine years of age. After a careful examination, Delpech finding the resistance existed in the tendo-Achilles, and reasoning on the restorative process adopted by nature in case of rupture of that tendon, and of fracture of the patella, determined to make an attempt to cure the deformity by means of the division of the tendon, feeling satisfied that if the foot was brought into position, and maintained by suitable support, the patient would be in a much better condition, although he might not possess the power of using the muscle of the calf. The operation is thus detailed :—The patient was laid horizontally on his face, so as to exhibit the parts of the leg containing the tendo-Achilles. "We," he says, "introduced the blade of a knife completely before the tendon, and caused it to pass entirely through from the internal to the external side of the leg, so as to divide the skin on both sides an inch in length, and with it the cellular tissue in front of the tendon. This instrument was then withdrawn, and replaced by a knife the end of which was convex, the direction in which it acted being from the front to the back of the tendon (our present mode of dividing it), which was thus divided transversely entirely through, without touching the skin which covered it. This portion of the operation was but slightly painful; and as soon as it was accomplished, we hastened to flex the foot, and found, with the greatest satisfaction, that no obstacle existed to prevent the axis of the foot from forming a right angle with the axis of the leg. Satisfied with this experiment, which convinced us that the first difficulty was overcome, we proceeded to apply the apparatus which we had prepared to fix the foot in the position in which it was held by the tendo-Achilles before the operation. With this view, the instrument was assisted by a linen bandage like a sling, which, taking its support from the ascending side-pieces, constantly pushed the heel forward. In this condition the two ends of the tendon appeared perfectly opposite, and in immediate contact, as well as could be perceived through the integuments. In order to keep the ends in position, to preserve them from the slightest motion, and also to prevent any swelling of the cellular tissue surrounding them, as well as to keep down inflammation, slips of adhesive plaster (which did not, however, at all tend to draw together the lips of the two small wounds) were used to fasten down pieces of lint on the point of section, causing a slight pressure upon it. The limb was afterwards placed upon a pillow, with the inner side upwards, the leg and thigh being bent. Thus each part being fixed in the position which it should occupy, the state of the case might any moment be examined without disturbing the apparatus. The patient was then put on a severe regimen, and allowed nothing but rice-pudding and veal-broth. The pain following the operation was very slight, and the patient would have slept well had not the excessive but very natural anxiety of Delpech caused him to order an attendant to keep her hand constantly on the limb to prevent any hazardous movement. On the tenth day a

soft swelling was observed, which, on being pressed, discharged a certain quantity of matter from the wounds which had not united. This process enabled him to see that the two ends of the divided tendon were not separated from each other. On the twelfth day portions of sloughed tendon and matter came away, after which it proceeded favourably. Twenty days after the operation no interval could be perceived at the point of section, but a sort of narrowing or neck, which, he says, indicated that neither the breadth nor thickness had been preserved. On examining it on the twenty-eighth day, the narrow part of the tendon was found to occupy only a few lines in length, and to be influenced by the movement of the foot. Extension was now commenced, and for two days little pain was experienced, nor did the heel come down. This, he says, involved consequences so serious, as to lead them to seek diligently for the cause of such a phenomenon; when they discovered that the patient had loosened his straps (a circumstance, gentlemen, of no uncommon occurrence). Greater care was then taken, and the stretching kept up; upon an increase of which, pain was felt, but it did not interfere either with his appetite or rest. As the flexion proceeded, the foot was found to evert; and as the instrument was not capable of preventing this, splints were applied on both sides, so as to prevent any lateral deviation. Extension was re-applied, and from the pain which followed it was evident the machine was acting efficiently. The foot was greatly improved, and on examining the tendon it was clear that the two ends of the tendon were separated nearly an inch and a half. In a few days more the foot was bent to a right angle; but he adds, the use of the instrument was continued much longer, in order to keep the parts in position during the period required by nature to give to the intermediate substance all the solidity requisite. At the end of a month it presented an extension of two inches in length, and an insurmountable resistance prevented the flexion of the foot beyond a right angle. To enable the patient to walk, a kind of boot was contrived, with springs attached, suitable for propelling the foot forward and keeping it in position. The patient used his foot with excessive pleasure, and with all the confidence desirable. A temporary illness followed, but he says he now enjoys perfect health, and with the aid of a convenient apparatus, which we intend him to wear for several years, excites, by the ease and rapidity of his walk and movements, the astonishment and admiration of all those who knew his former distressing state of deformity.

I have, gentlemen, thought it right to give you this case thus in detail; as it is full of interest, from being the first practical information we possess on the subject. It teaches us, besides, the reward of perseverance. Delpech had no ordinary difficulties to contend with, and yet he allowed none of those obstacles to prevent him from carrying out his views; on the contrary, he met with difficulties at every turn, but met them boldly, and has shown the world that deformity was no longer to continue invulnerable, but that it must succumb to the science of surgery; and in thus patiently, ingeniously, and triumphantly overcoming every impediment, he has laid the foundation of the new and successful treatment which we are at this moment carrying out. Delpech seems to have grasped the whole system, for he not only got the foot into position, but directed his attention most extraordinarily to maintain it so, proving how correct were his physiological views of the new uniting medium;—and his ordering a boot with the support attached, for his patient, is a circumstance of great importance, thus leaving nothing undone, nor to which we have as yet added in its principle.

To Stromeyer, however, belongs the exclusive credit of re-introducing it; for, strange as it may appear, none of Delpech's countrymen took it up; neither, as you are well aware, did any one in this country. Dr. Stromeyer, of Hanover, at length directed his attention to the subject, and extended it to deformities in general, with success. It is now little more than seven years since my late colleague, Dr. Little, having witnessed the treatment of Stromeyer, introduced it into this country; having also, on his way back from Hanover, visited Berlin, where Professor Dieffenbach operated on an immense number of cases of every variety, dividing every muscle that appeared contracted, and has applied the operation also to the reduction of dislocation. He has only mentioned the division of the posterior tibial tendon in two cases, whereas we find it necessary in almost every case of talipes varus, from its extensive insertion, and the great power it possesses of rotating the foot inwards, in consequence of the leverage it possesses from passing under the inner malleolus. It was, however, never attempted, that I am aware of, in children under twelve months old, until I invented a stilette and canula, with the blunt-pointed knife, which enabled me to divide the muscle in infants without risk of puncturing the posterior tibial artery. The complete division of the artery is not, from our experience, of any moment; it has been frequently done, and must with the greatest precaution occasionally occur. Not so, however, a puncture of the artery, two cases of which have occurred: in both false aneu-

rism was the result, and in both was it necessary to cut down upon and to tie the vessel. The first was a puncture of the posterior tibial, the other of the internal plantar artery, in a boy 11 years of age. Since the opening of the Institution more than two thousand cases, embracing every variety and complication of deformity, have presented themselves; and, I say it with pride, our success has equalled our most sanguine expectations.

The term special has been applied to the peculiar objects of this and of other institutions devoted to one purpose: if it conveyed an impression only of that kind, I should not have noticed it, but this term too often leads to the conclusion that those connected with such institutions confine themselves to the study of one department of the science; but, gentlemen, because we as surgeons choose to adopt the improvements made in the profession of which we are members, are we to be designated by the opprobrious term of specialists, and thus, by implication, to be excluded from surgery in general? if such were the consequence, much as I might deplore the ignorance or bigotry which caused it, I would not belong to this institution another hour: I give place to none in my anxiety to follow surgery as a science, or to uphold it in the position it justly takes in the rank of the learned professions, and however inferior I may be to my professional brethren in ability, I yield to none in love for the profession, or in anxiety to preserve it inviolate as it ought to be: "an honorable, an intellectual, a noble occupation," my most strenuous efforts will ever be directed to cultivate and cherish the good opinion of its members. The objects of this charity call into exercise our anatomical, physiological, and surgical knowledge; they embrace the muscular, the osseous, and ligamentous tissues of the whole body, as well as the skin itself; the cerebrum and spinal marrow but too frequently are causes, and, with the exception of congenital cases, are very general causes, of the deformities which present themselves; and many cases are occasioned by diseases of the bones and joints, and parts surrrounding them: if, then, the term special can be applied, I can only say it is a specialty embracing the study of the whole body. This branch of surgery calls into exercise, as I have just observed, our anatomical, physiological, and surgical knowledge; and is not the mechanical treatment in accordance with the treatment of dislocations and fractures? I believe the knowledge of the treatment of deformities scientifically will be the means of improving mechanical surgery in general. A case was related a few weeks since, where the tendo-Achilles was divided to enable the surgeon to reduce a dislocated ankle. Again, let us go to the causes of congenital deformities: some are at present inclined to attribute them to a mental impression, generally a sudden one, received by the mother during pregnancy; but the evidence is far from being conclusive; for it oftentimes happens that the mother can assign no cause; in other cases the deformity appears hereditary, and I know of one instance where a family of eight children had double varus, and the parents refused to have any thing done for fear of destroying their uniformity.

In non-congenital cases teething, worms, and irritation of the spinal chord, are frequent causes. Certain occupations, such as much standing, or carrying heavy loads: position also may be regarded as a cause, especially in lateral curvature of the spine, knocked-knees, &c. and disease of the bones themselves in antero-posterior curvature; muscular action in rachitis, as the immediate and insufficient nourishment, or badly assimilated food, as the remote cause, injuries also of various kinds to the spine, bones, &c.: but occasionally we are at a loss to discover any cause, the deformity coming on insensibly, whilst the patient is apparently in perfect health. Again, deformities themselves vary as much as their causes; the same deformity in both feet will rarely yield to treatment as rapidly in the one foot as in the other; and even in infants one case will present comparatively little difficulty, whilst another, precisely analogous in appearance, will require the greatest caution and perseverance, and sometimes a long time to effect the cure. Thus, gentlemen, you will perceive that there is abundance of mental occupation in the treatment of deformities, but most especially in the investigation of their causes; for, in my opinion, the non-congenital are by far the most painful and severe in their consequences, involving but too frequently paralysis of the moving powers themselves. These cases, if attended to at their commencement, might certainly be relieved and prevented, but it often unfortunately happens that there is little interference with the general health; the deformity, as in the foot, for instance, coming on insidiously, no attention is paid to the circumstance; a weakness, as it is termed, of the ankle is felt, and the foot deviates occasionally from its natural position: the fears of the parents are then excited, and they consult their medical attendant, who consoles them with the mistaken notion that the child "will grow out of it;" and thus the foundation is laid for a permanent deformity, or at all events a permanent weakness, of one or both limbs, which may involve their being disabled for life.

Gentlemen, it is our privilege to be placed in the position of administering relief to those who have hitherto regarded relief as

hopeless; and if there be one encouragement greater than another, it is the inexpressible happiness of witnessing the success attending our efforts, on the one hand, and the gratitude evinced by those emancipated, if I may so express myself, from perpetual bondage, on the other. This applies with peculiar force to the deformed poor, who have been doomed to drag out a miserable existence in the workhouse, shut out (to use the words of the poet) "from the common air, and common use of their own limbs." We have had, since the opening of the institution, patients sent from workhouses whose deformities arose from injuries to the spine, totally unable to move without crutches, but who have walked out of the house, and been enabled to resume their occupation.

It is an unspeakable gratification to be the instrument of dispensing these blessings. But, gentlemen, we have a still more exalted object in view; viz. to extend by every means in our power the knowledge of this branch of surgery to our professional brethren, and thus to make relief universal throughout the empire.

ON THE RETENTION OF UREA IN THE BLOOD, IN CASES OF FEVER.

By Michael W. Taylor, M.D. Edin.

(For the Medical Gazette.)

So many admirable papers and descriptions have been published illustrative of the peculiar type of fever, which has been described in this part of the country as the prevailing epidemic of the last twelve months, and as that disease has now almost, and in some quarters entirely, ceased to exist, any further attempt to illustrate its peculiarities might perhaps be deemed unseasonable. However, the case presently to be related, selected, on account of the unusual phenomena attending it, from among others of a similar nature, affords, I think, a good example of one of the most interesting facts connected with the pathology of the recent epidemic, viz. the occurrence of retention of urea in the blood. The liability to this occurrence not only in the course of this modification of fever, or rather this specific form of fever, but also in typhus, particularly towards its later stages, and in both cases independent of any specific or organic disease of the kidney, has been pretty fully made out, from the facts elicited from the observations pursued in Professor Henderson's clinical wards, during the last winter.* But though the liability to this occurrence is now very generally received as a standard principle in the pathology of these fevers, and must become of extreme importance in relation to their treatment, the paucity of the details yet preferred in regard to it has induced me to offer the following case as an illustration of this disorder of the blood, and to append to it such remarks as the consideration of the subject may seem to demand.

Case.—Janet Thomson, æt. 24; admitted March 12th, 1844. Reported on 13th. Lived in Leith. Is a stout, plethoric young woman, unmarried, but of irregular habits. Seems to have been seized on the 7th inst. with shivering, pain of head, and pain in the back and limbs; states that she felt languid and indisposed for a day or two previously. States that she has seen no one ill with fever, but that in the house in which she was lodging there were several persons who had some time previously been affected with what she believes to have been the common epidemic fever.

Sweated a good deal last night, and is at present perspiring freely; does not think she has sweated so much before during her illness. Pulse 80, soft, of fair size. Pain of head, which was severe yesterday, entirely gone. Complains of some stiffness and pain in the arm and shoulder. Bowels open from medicine taken last night. Tongue moist, and covered with a white fur. Has not passed urine since admission at noon yesterday, previous to which it was in good quantity. There is no distension of the hypogastrium, nor dulness on percussion over that region. Complains of a feeling of heaviness and drowsiness, every now and then falling asleep, and awaking in a short time with a start, and a sensation as if she were falling from the bed. There is some dimness and indistinctness of vision, giddiness, and a feeling of heaviness over the eyes: a greater slowness and hesitation of utterance than yesterday. Little confusion of head, as she answers intelligently questions respecting her present con-

* Dr. Henderson, Edin. Med. and Surg. Journ. vol. lxi.; The author, in Scottish Medical Gazette, Feb. 1844.

dition, though she cannot describe so precisely as before some of her previous symptoms.

℞ Nitratis Potassæ, ʒjss.; Liquor. Acet. Ammoniæ, ℥iv. M. Sumat. ℥ss. 2dâ quâque horâ.

March 14th.—Pulse 68, somewhat irregular in its beats. Began to pass water yesterday half an hour after having taken the first dose of the medicine. At 7 o'clock P.M. she had made six or eight ounces of high-coloured urine. The whole quantity in 24 hours is 34 ounces. Sp. gr. 1020, colour reddish brown, destitute of deposit; no precipitate by heat or nitric acid. Has sweated a good deal since visit yesterday; feels much lighter; the feeling of languor, drowsiness, and uneasiness in the head, is gone. Skin cool and moist; tongue moist and furred.

Omittatur Mistura.

15th.—Had some slight shivering this morning. Skin hot and dry; pulse 88. Urine 24 ounces since yesterday; sp. gr. 1024.

22d.—Has continued feverish since last report, but with no bad symptoms. Pulse 120. Skin hot and dry: has an oppressed look. No stool to-day, but bowels open freely before. No headache.

Habt. Liquor. Ammoniæ Acetatis et Nitrat. Potassæ.

24th.—Pulse 120, of fair strength. Skin hot and dry. Countenance has much of a sottish expression. Pupils pretty large and equal. No decided difference between the two sides of face, when the features are at rest, but a very decided obliquity of the mouth, and protrusion of the tongue to the right side, when desired to put it out, the left angle of the mouth being drawn out at the same time. On speaking, the left side of the mouth alone moves. She is not insensible, but her intelligence is obscure. She moves the right arm freely enough, but cannot squeeze with it so strongly as with the left. Moves the right leg, but whether as well as the left cannot be determined. There is a bright red patch, and a series of others downwards on epigastrium and abdomen; a pale-coloured weal occupies the centre of the largest, and a similar spot, with a weal, exists at the carpal extremity of left thumb. A superficial slough on the left heel, and an ecchymotic spot on the right instep. Tongue dry, and darkly furred. Urine has not been preserved, but is stated to be in small quantity.

Abradatur Capillitium; ℞ Nitratis Potassæ, ʒiss., Aquæ, ℥x. solve. Sumat. ʒj. 2dâ quâque horâ.

25th.—Pulse 116, of good strength. The hemiplegia of the face remains as before. Tongue dry; several stools. Urine said to be in good quantity, but not kept. On the left foot the upper surface of the little toe is occupied by a bulla of blood; another between that toe and the next. The spots on the epigastrium are not so large; that upon the right thumb is converted into a straw-coloured bulla. Intelligence, pupils, &c. as before.

Continuatur Mistura.

26th.—Pulse 104, of good strength. Right cheek as before; right pupil smaller than the left, but not contracted. Tongue dry, but clean. Pus in the bulla on right thumb. The largest bulla on left foot has emptied itself of blood, and the part is healthy below. The vibices are mending. Urine in moderate quantity.

Habeat Pulv. Jalap. Comp. ʒj.

27th.—Was observed in the morning in a state of stupor, being incapable of observing or replying. She was directed by one of the clerks of the house to be cupped about an hour ago. Pulse, at present, 150, very feeble. Is incapable of comprehending or replying to questions. The right pupil is considerably dilated. No effect is produced on the eyelids on thrusting the hand towards the eye; the left pupil is smaller, not contracted, and she winks on thrusting the finger towards the eye. Even irritation of the conjunctiva produces comparatively little effect on right side. No motion of the right arm is produced by irritating it, and it is quite in a state of resolution; pricking it, however, produces an expression of pain. Above the inner condyle of the right femur, and below the inner aspect of left knee, parts which are said to have been lying in contact, there are spots of corresponding size of two inches long, by an inch and a quarter broad, consisting of red discolouration, containing a deep purple patch, nearly two-thirds of size of whole spot; around the redness there is a halo of a pale

lemon colour. A scanty eruption of sudamina on the belly. A large bulla, containing apparently blood, has formed on outside of left foot. Urine passed in bed; its quantity cannot be ascertained, but judged to be not more than a few ounces.

Haust. Spiritus.

28th.—Died last night at 11 o'clock. No inspection could be obtained.

Remarks.—It appears that this woman, after exposure to the contagion of the epidemic fever, was seized, on the 7th inst., with the usual symptoms of that disorder; and that on the seventh night thereafter the exacerbatio critica commenced, which terminated as usual with a copious perspiration and total cessation of the febrile state. Coincident with the occurrence of the crisis there appeared a series of symptoms which must often have presented themselves to the attention of those who have observed accurately this disease; viz. a peculiar and very manifest cerebral oppression, indicated by a degree of drowsiness, lethargy, vertigo, preternatural slowness of speech, slight confusion of mind, and, what I have very frequently noticed in this, and those other diseases in which the blood is prone to become similarly empoisoned, viz. dimness and indistinctness of vision, and sometimes spectral illusions, often apparently similar to those accompanying that condition of the blood resulting from excessive or repeated indulgence in strong liquors. Though there was no opportunity afforded, at this period of the disease, of confirming our suspicions by an analysis of the blood, yet I think, from what we have observed in other cases of the same description, and from what we know of its effects, that there can be no doubt of the propriety of referring these symptoms to the retention and circulation of urea in the blood, and its poisonous influence on the nervous system, particularly as, coincident with these symptoms, there had been an absolute suppression of the urinary excretion of at least thirty hours' duration. However, the restoration of the excretion being effected by the administration of a vigorous diuretic, these symptoms, which I have no doubt would otherwise have speedily become alarming, gradually subsided.

After an apyretic interval of two or three days, the fever recurred; on what precise day was not determined, but about the time at which this second febrile paroxysm should have remitted, and the crisis occurred, there appeared a train of symptoms of a very peculiar and alarming description. The febrile state still continued, the pulse still maintained its morbid frequency, the aspect acquired a sottish typhoid expression, which it did not possess before, a degree of torpor and obscurity of intelligence supervened, and there appeared decided symptoms of general hemiplegia of the right side of the body. Besides, a further complication of the case made itself manifest by the appearance, on different parts of the surface, of irregular bright red ecchymotic spots, vibices, and bullæ, or effusions of blood and seropurulent matter beneath the cuticle, some of such effusions apparently being produced on spots on which slight pressure had been made, others occurring spontaneously. This state, after continuing for three days, advanced to complete stupor and paralysis, and the patient died comatose, and with a very frequent and feeble pulse, on the night of the 27th, without ever having had convulsions. The urine throughout this period seems to have been passed but in small quantity.

In the hope of finding some explanation of this hæmorrhagic tendency in some alteration in the proportion of the salts of the blood, which ought to have been the case in accordance with the doctrines of Stevens and others, I subjected to a very careful analysis 1000 grains of the serum obtained by the cupping performed on the morning preceding the final issue of the case: the result of which chemical analysis was the following:—

Water			901·03
Albumen			84·39
Soluble Salts	Decomposable by heat	4·42	9·69
	Not decomposable by heat	5·27	
Insoluble salts			2·8
Urea, fatty, and extractive matter			2·07
			1000·58.

According to M. Lecanu, 1000 grains of the serum of the blood of women contain—

	Water.	Albumen.	Soluble salts and extractive matter.
Maximum	921·311	84·490	14·350
Minimum	903·631	67·990	9·080
Mean of ten analyses	909·943	78·903	11·153.

The condition of the serum, as the above analysis shows that there was no material transgression in the proportion of its several ingredients beyond the physiological limits of each, cannot afford any explanation of the cause on which the remarkable tendency to extravasation depended. The blood drawn by the cupping possessed its normal scarlet hue, coagulated as usual, and the clots, though somewhat voluminous in proportion to the serum, did not appear to be much deficient in firmness; hence it is probable that there was neither any defect in quantity of the fibrin, nor a diminished attraction of aggregation in that fibrin. But as no special examination was pursued beyond that of the serum, I am not prepared to state to what particular alteration in the constitution or qualities of the solids of the blood this hæmorrhagic tendency was owing. Be that as it may, in the course of the analysis of the serum it was found that urea existed in it in large quantity; so abundant indeed was it, that on the addition of nitric acid to the aqueous solution of the alcoholic extract, it was speedily converted into a solid crystalline mass, consisting of the eminently characteristic scales of nitrate of urea. In consequence of this circumstance I consider the details of this case as worthy of notice; not that I wish to assert more than the probability of the hemiplegic affection, and finally death, having been owing to the retention in the blood of so large a quantity of urea, which we cannot suppose to have circulated in the brain without having exerted on it its poisonous influence to an injurious extent, being aware of the possibility of the hæmorrhagic tendency, which was so abundantly manifested on the surface, having extended itself to the membranes of the brain, and even to the cerebral capillaries themselves. However, as an opportunity of proving the actual state of the case by dissection was not afforded, I conceive that I am justified in hazarding the former conjecture.

I am not aware of any observations to prove what influence the presence of urea in the blood may have in producing hemiplegia, but I think that such an action may not be unlikely, from what we know of the various derangements of the nervous system which are so prone to occur in the course of Bright's disease of the kidney, in which there is such a proclivity to retention of urea. The headaches, giddiness, transient imperfections of sense and of memory, the quiet stupor, the obstinate muscular pains (generally described as rheumatic or neuralgic), the transient paralytic affections, which often attend this disease, and what may be called its natural mode of termination, viz., by way of coma and convulsions, are no doubt all dependent on the poisonous influence of urea on the nervous system. Such cases, before the researches of Dr. Bright and others, were all set down in the class of simple apoplexies, no effusion of blood or other perceptible morbid appearance shewing itself in the brain, the apoplectic state being referred to the pressure exerted on the cerebral substance by an increased propulsion of blood upon it or transmission through it. But supposing the condition of apoplexy to have been produced previous to the impregnation of the blood with urea, the question may then be mooted, whether such a lesion of the nervous centres as that caused by hæmorrhage within the cranium, can so affect the secreting faculty of the kidney as to hinder the free elimination of urea from the blood. The examination of the blood in a series of cases of apoplexy would determine this point, the possibility of which seems to me not to be visionary, from all that we at present know of the influence of the nerves on secretion. The experiments of Krimer, at any rate, prove, that injuries to the brain and spinal cord, if they do not produce entire suspension of the urinary excretion, alter materially its characters. This physiologist found, that after division of the spinal cord in the dorsal or lumbar region, the urine became limpid, like water, of low specific gravity, with an unnaturally small proportion of its peculiar animal

matters: after division of the medulla oblongata, the secretion of urine was entirely and instantaneously arrested,—a fact which was previously observed by Sir B. Brodie, in the course of his experiments on the influence of the brain on the action of the heart, published in the Phil. Trans. 1811. Drs. Müller and Piepers also found that destruction or division of the renal nerves was in most cases speedily followed by a complete suspension of the urinary excretion. These experiments show that we are not to regard, as some have done, the kidneys as mere mechanical filters to the system, but how much they are under the influence of the nervous centres. The influence of emotions and other mental impressions on the secretion of urine may be adduced as an additional illustration of the same fact; and it is in nervous subjects, particularly hysterical females, that those remarkable cases of vicarious secretion of urine, independent of disease of the kidney, have been observed.

In consequence of being precluded from an examination of the state of the internal organ after death, these remarks can only be considered as hypothetical, but whatever lesions may have existed, there can be no doubt that the phenomenon to which our notice is at present particularly directed, viz. the existence of so considerable an amount of urea in the blood, must have materially promoted, or perhaps accelerated, the unfortunate issue of the case.

The immediate cause of retention of urea in the blood, in cases of fever generally, has not yet been precisely determined. Urea being for the most part derived from the decomposition of the extreme tissues, and as during the course of a fever the transformation of these tissues is believed to be effected with increased rapidity, an excessive formation of that principle will result, and if from any cause the organs by which it is naturally eliminated from the system be temporarily embarrassed, whether by a slight mechanical obstacle to secretion in them, or by excessive secretion elsewhere causing derivation from them, this deleterious product, urea, will accumulate in the blood, and act injuriously on the brain, which had already encountered the oppression arising from the poison of the fever itself.

In the recent epidemic fever, certainly, the symptoms of this affection of the blood seemed generally to coincide with the partial suppression of urine which so often followed the critical sweat with which the fever subsided. I have observed, that generally during the maintenance of the febrile paroxysm, the urine was voided in good quantity, often amounting to 40, 50, or 60 ounces during 24 hours, and containing an amount of urea, much above that which is esteemed by M. Becquerel as the daily average in a state of health: and that during the declension of the fever, and in the apyretic interval, it was usually diminished, sometimes below a third of the natural quantity, or absolutely suppressed for a certain period, the amount of urea in the former case undergoing a correspondent diminution.

In this fever, then, it is probable that the excessive spontaneous sweats which occur during the critical period, and endure for some hours, interfere so materially with the healthy action of the kidney, that the essential elements of urine, the production of which was previously going on with increased rapidity, no longer obtaining a free means of escape from the system, collect in the blood, and act as a poison to the brain. The operation of a similar cause is exemplified in spasmodic cholera; the copious alvine discharges in that disease check most of the other excretions, and amongst the rest that of the urine, the essential element of which, viz. urea, consequently accumulates in the blood, where its presence has been demonstrated by Dr. O'Shaughnessy, Simon, and Rainey of Glasgow.

These remarks are understood to refer merely to the recent epidemic fever, and not to typhus, in which disease no such critical evacuations are seen, but in the later stages of which I am confident, from a few observations, that retention of urea occasionally occurs.*

Edinburgh, Aug. 1844.

* One example of this disease, in which the patient died comatose and with convulsions, and in which urea was found in the blood, was published by the author in the Scottish and North of England Med. Gazette, February, 1844.

ON

A NEW CRANIOSCOPY,

UPON A SCIENTIFIC FOUNDATION:

A Lecture delivered at Leipzig, on the 3d of February, 1844,

By Dr. C. G. Carus,
Medical Privy Councillor, and Physician in Ordinary to His Majesty the King of Saxony, &c. &c.

TRANSLATED FROM THE GERMAN,

By J. C. H. Freund, M.D.

[Concluded from p. 734.]

(For the London Medical Gazette.)

After these observations on the best mode to be adopted for the purpose of expressing by figures peculiarities in the structure of a skull, I proceed to answer the question above mentioned, namely, what the indications are of the psychical peculiarities in different individuals, which might be taken from a comparison of the different structure of their heads, and principally the three cranial vertebræ, founding, at the same time, these important indications on a thoroughly scientific basis.

I comprehend the answer to this question under the few following heads, which must not be expected to be more than a general sketch; for much must remain here unnoticed, and much more must be expected from the further progress of this infant science.

I. A fine well-formed skull, properly arched on all sides, and sufficiently roomy in its frontal region especially—the measurement, for example, from the ear to the highest point of the front being 4″ 10‴* to 5″ 2‴, or 5″ 3‴, to the highest point in the middle cranium 5″ 2‴ to 5″ 5‴, to the highest point in the posterior cranium 3″ 6‴ to 3″ 8‴, with corresponding length and width of each vertebra—bespeaks, like a large and regularly-developed brain, a good and powerfully organized psychical capacity for perception, feeling, and will.

II. A skull, stunted in growth, and deficient especially in the development of the frontal arch—the measurement of the height of the anterior vertebra being 3″ 6‴ to 3 10‴, of that of the middle cranium only 4″, and of that of the occiput only 2″ 6‴, with corresponding length and width of all the three vertebræ—indicates, with a badly-developed brain, a very unfortunate and most unfavourable psychical capacity for perception, feeling, and will; and any considerable malformation of this kind will be inseparably found connected with idiotism or weakness of mind.

III. In a similar manner will any superior development of the psychical faculties be excluded from a skull which is much enlarged beyond the ordinary size by dropsical effusion in the brain.

Should, however, the cerebral substance be but little impaired, a moderate degree of intellectual development may be possible, and does occasionally occur.

IV. In those infinitely various and intermediate forms of the skull, which neither reach the scale of a perfect, grand, and harmonious skull, nor come under that which is designated as one extraordinarily stunted and of a hydrocephalic nature, we shall have to ascertain, by comparing the three vertebræ one with another, which, or how many of them, possess a development regular, perfect, and beautiful, and which a development stunted, irregular, and deficient in beauty; and from this point we shall always be in a condition to arrive at some well-grounded conclusion on the predominant capacity of psychical life of an especial individuality, as regards the faculty of perception, the sphere of the feelings, the impulse of the will.

Here those combinations which are most remarkable are easily pointed out. They become, in fact, self-evident. Thus, for instance, we find that in the skull of the negro the frontal region is restricted, the middle cranium of only moderate size, but the occiput is strong and powerfully developed, and we conclude, therefore, an individuality of narrow and limited intellect, no very comprehensive feelings, but with a faculty of will eminently developed, and combined with great muscular vigour. When, on the contrary, we find the frontal cranium (forehead) fully developed, but the middle and posterior cranial vertebra very inferior in size, we may suppose that we have before us an individual to whom might be applied the term of "a mere man of intellect" (ein Verstandesmensch), one without any considerable share of feelings and energy, or in whom, perhaps, such capacities might be entirely wanting.

[* *i. e.* 4 in. 10 lines, or 12ths of an inch.—Ed.]

V. In making use of the above method of measuring, for the purpose of obtaining a knowledge of the different forms of head, it will be of importance to distinguish well from the original form, (*a*,) any prominences or depressions of the skull, either the result of accident or the effect of disease; (*b*,) any forcible compressions of the head, as is met with in many American tribes; and (*c*,) neither to forget the various degrees of thickness of the cranial bones, nor the difference in quality or consistence of the brain itself.

VI. Lastly, it must be granted that scientific cranioscopy is wholly unable to prove any original capacity either for moral good or moral evil. If it were, as that abstruse phrenology founded by the so-called followers of Gall would assert, that there are distinct and separate organs of thieving, destructiveness, and secretivenesss, and another distinct organ of conscience, truly the idea of man's liberty would be nothing more than an absurdity; and the murderer or thief who possessed the first named organs, but was deprived of the last, would stand justified before his earthly and heavenly judge.

These errors are entirely excluded from a cranioscopy founded on scientific principles. Conscience, the moral feelings, are the real emanations of the Deity, felt by any man who is awake to consciousness of himself; and a person of feeble psychical powers—the negro, for instance, who is of inferior intellect—can, if he only listens to that inward voice, be as good and as virtuous, as the man of great psychical capacities can become erring and wicked if this inward monitor be neglected by him.

Nevertheless will the true cranioscopy prove of great practical service in the administration of criminal justice; and some hints on this subject were, in fact, laid down by me in the Journal of Medical District Officers (2d section).

It is true, an individual of little sensibility and very small intellect, but with a strong inciting desire and will, can easily render himself liable to commit crimes of any kind—crimes to which an individual of superior intellect will not fall a victim; for the same intellect will tell him that by the commission of crime he will render himself unhappy. And it is a fact that the forms of skull which are usually met with in criminals are very unfavourable, a circumstance which, at all events, deserves the consideration of the judge, and calls strongly both for pity and for mercy. With such feelings should society regard the criminal; and if punishment cannot be entirely suspended, it should be awarded, not with feelings of vengeance, but as a means of amelioration and moral improvement.

In order to illustrate better the above six facts, I add here, by way of example, the measurement of four different heads:

1. That of a nobly formed male skull.
2. A male skull of inferior type.
3. A well formed female skull.
4. A female skull of feeble development.

Let us take for number 1 the skull of Schiller, the measurement of which is as follows:

1. *Frontal cranium.*

Height	5″
Width	4″ 8‴
Length	4″ 8‴

2. *Middle cranium.*

Height	5″ 4‴
Width	5″ 10‴
Length	4″ 8‴

3. *Posterior cranium.*

Height	3″ 7‴
Width	4″
Length	3″ 7‴

Let us compare with Schiller's skull that of a Negro slave:—

1. *Frontal cranium.*

Height	4″ 6‴
Width	3″ 10‴
Length	4″ 2‴

2. *Middle cranium.*

Height	4″ 7‴
Width	4″ 6‴
Length	4″ 2‴

3. *Occiput.*

Height	4″
Width	3″ 2‴
Length	3″ 5‴

The measurement of the skull of a celebrated actress and singer:—

1. *Frontal cranium.*

Height	4″ 8‴
Width	4″ 2‴

The length of it, as in that of the following case, could not be ascertained,

as the examination was made during life.

2. *Middle cranium.*

Height	5″
Width	5″ 6‴

3. *Occiput.*

Height	3″ 11‴
Width	3″ 2‴

And, lastly, the measurement of the skull of a complete idiot girl of 22 years:—

1. *Frontal cranium.*

Height	3″ 3‴
Width	3″ 3‴

2. *Middle cranium.*

Height	3″ 11‴
Width	3″ 9‴

3. *Occiput.*

Height	2″ 8‴
Width	2″ 11‴

We observe that, in Schiller's skull, the regions of perception, feeling, and will, are developed in perfect harmony one with another, and that the two first are especially striking and prominent. The proportions, therefore, must be considered favourable throughout.

In the Negro's skull we find the two first regions, namely that of intellect and feeling, in a very low state of development; while the region of desire and will surpasses, as regards its height, that of Schiller.

In like manner the female idiot shews a general inferiority of all the measures of the skull, while even the other favourable specimen of the female skull remains much in arrear when compared with that of a well-formed man.

We must here again bring to mind the great care and circumspection necessary in taking these measurements, if we wish to obtain any correct result from them. It would approach to an absurdity if we were to look at these measures as decisive by themselves, absolutely, without bearing in mind that they always must be considered in their relation to the form of the whole body, and that we must never lose sight of any disease which might have exerted some influence over them. If we neglect this precaution we run the risk of mistaking a skull which is enlarged by dropsical disease for that of a great and learned man, or of believing any one two degrees wiser than his neighbour, simply in consequence of his frontal cranium being two lines higher than usual.

For this reason no other than a scientific anthropologist and physician ought to consider cranioscopy as belonging to their sphere, and the craniometer handled by an ignorant man must, according to the words of Oken, become as ridiculous as the gypsy-like touch of the skull's prominences instituted by phrenological dilettanti.

I give myself up to the fair hope that I have succeeded in giving a general view of what may be called a scientific cranioscopy. I must refer those who feel inclined to follow the matter any further to my "System of Physiology," vol. iii.; to my "Elementary Principles of a New and Scientific Cranioscopy" (Stuttgart, 1841); and to an article on Scientific Cranioscopy, inserted in Müller's Archives for Physiology, 1843, 2d sect.; and, lastly, to my "Atlas of Cranioscopy," 1843, sect. 1.

I must yet direct attention to two other points:—

1. To the question whether the dimensions of the different regions of the skull and brain, taken each separately, have any different physical meaning; and

2. To the relation which exists between some particular provinces of the skull and the development of the great organs of the senses.

With respect to the first question, I would ask whether it be the same that some part of the brain and the corresponding cranial vertebra extends itself more in height, width, or length?

I would venture to say *a priori* that it cannot possibly be without some meaning; but the difficulty is to say what tendency is predominant. I cannot enter here any further, and much is left for more minute inquiry and comparison; but one thing I wish to be understood, namely, that if the formation of each of the cerebral substances proceeds from a simple middle, the divergence towards both sides can be regarded as the tendency to the formation of a well-balancing (reflecting) analytical mind, and that hereby the necessity is apparent of the frontal vertebra extending itself more in width, and, finally, that the same disposition which creates in the cerebral substance greater power of reflection, will have

some effect on the psychical life of the corresponding region.

We learn, for instance, from experience, that persons who are possessed of great analytical and philosophical power of intellect are also possessed of a frontal cranium of great width; and again, that persons with plain and simple intellect, the sphere of which is directed more towards the study of material objects, have a frontal cranium of considerable height. I hope this is a hint sufficient to shew how facts of this kind are to be understood, and how the subject in question can be entered into more minutely.

As regards the other point, namely the relation of the skull to the great organs of sense, it must be known that the organs of sight and hearing especially are themselves immediate continuations of the cerebral substance, and that all the impressions conveyed to the psyche by these two channels are of so much importance for the whole development of psychical life, that, if a man were deprived of these two senses from his very birth, to a moral certainty every chance of acquiring superiority in psychical life would be denied him. The action of these two senses upon the psyche is very different; and very ably was it remarked by Oken, that, through his eyes, man enters into the world; through the organ of hearing the world enters into man.

A strong prominent eye gives to the brute creation, as also to man, a character somewhat quick and courageous, or bold, one which sinks well into its objects; a strong prominence of the organ of hearing gives the idea of a retiring character, one brooding in itself and fearful.

How far, then, the development of these great sensuous organs contributes to the influence by which the skull leaves traces of its formation, must likewise be considered by cranioscopy as diffusing some light on the peculiarities of the psyche.

Now the structure of the acoustic organs is visible in the skull by the formation of the temporal bones, or, as it can be termed, the first intermediate bone of the skull (os triquetrum); and the structure of the eyes is expressed in the formation of those osseous cavities called the orbits. Animals which enjoy a good sense of hearing, but are almost sightless, as the mole for instance, are provided with a strong and broad auricular vertebra, but have indeed no peculiar orbit, the head being rather narrow in that region. Animals, on the contrary, with large eyes, and a proportionally inferior sense of hearing, as, for example, birds of prey, have very large and wide orbits, but are narrowed about the region of the ear.

In order to learn also something from the measurement of these parts of the skull, I would advise, in taking the measures of an individual, to add that of the width of the orbits as well as that of the temporal region, just above the ears, and there can be no doubt that, in these measures also, much will be found speaking to the character of the individual examined.

Persons with a prominent faculty of hearing, given to music, the study of languages, and at the same time timid and with a disposition towards a retiring life, usually shew greater width in the auricular region; while persons with an ascendancy in the sense of sight, devoted to the art of painting, to acute discrimination of localities, combined with a good deal of courage in their dealings, have mostly an orbital region of great width: and here, also, is much room left for further instructive observations and comparisons.

Enough of these remarks; and at the conclusion I think it will be of some interest to add something which refers to the results obtained by me from this new cranioscopy up to the present time. Five years ago I first became awake to the light of a new cranioscopy; and from that time I have profited by every possible opportunity, and submitted to the above mode of measuring the forms of heads of most different characters: I have also succeeded in obtaining a collection of skulls and casts, which is not very large in number, but is not the less valuable to me. In all the measures which I have taken I have seen the views above stated amply confirmed in their substance, and I have only to refer here to the tables before me.

1. In men with so scantily developed frontal vertebra (a front, for instance, which was below 4″ 6‴ in height, and under 4″ in width) I never found any considerable degree of intellectual power; but—

2. In a whole series of indivi-

duals with great powers of intellect I constantly found the frontal vertebra of considerable size (a height of 5″ to 5″ 3‴, or 6‴, and a width of 4″ 6‴ to 5″). Of learned men I will only mention the names of Kant, Ehrenberg, Purkinje, Retzius, Raumer; of statesmen, the intriguing Talleyrand and von Lindenau; of artists, Rauch (5″ 4‴ height, 4″ 7‴ width), Bendemann, Thorwaldsen (5″ 2‴ height, and 7″ 8‴ width), and Godf. Schadow; of poets the names of Schiller, Goethe, Tieck, in all of whom the development of the frontal cranium was very considerable. I met with a very small frontal vertebra, by way of exception, in the natural philosopher Nobili, the height of which was 4″ 6‴, and the width 4″ 4‴; but in this case the whole skull was of extremely fine structure, and the bones constituting it, especially that of the front, were very thin, the upper part of the orbits very delicately organised and almost transparent; the width of the auricular vertebra was also very considerable (5″ 6‴).

3. From a series of measurements taken from the heads of very interesting and talented women, I never could find one frontal vertebra of a height equal to that of distinguished men, 4″ 11‴ being the utmost I have met with; and this was the case with Mrs. Austin, the well-known authoress.

4. Much opportunity was afforded me of acknowledging the importance of the region of the feelings and the energy of the will when measuring the middle and posterior cranium.

In men of vulgar nature, or of scanty development, I found the middle cranium measuring below, or little above, 5″. I took the measure of two thieves, both old criminals, and found that the height of their middle cranium amounted only to 4″ 10‴ and 5″ 1‴, and the width was 5″ 2‴ and 5″ 3‴.

In examining the skulls of many individuals of the wild tribes, as, for instance, of the Botocudans, New Hollanders, Guarapuans, Aleutians, Negros, Bashkirmen, I also found the middle cranium to be only of a height of 4″ 8‴ to 5″ 1‴, with the exception of the Bashkirmen, where I found 5″ 5‴. But with poets, artists, and learned men, in civilized life, the average shewed a height of 5″ 4‴ to 5″ 7‴, and a width of 5″ 5‴ to 5″ 9‴.

With regard to the occiput, I found that its height stands in some relation to the energy of reaction; and this energy, whether it was of a more psychical character, or more connected with muscular strength, depended entirely on the greater or less degree of development in the region of intellect. So, for instance, the Arabian springers, who passed through Europe some time ago, were distinguished for an enormous height of occipital vertebra (the measure, beginning from the ear, amounted from 4″ 5‴ to 4″ 7‴ and even to 4″ 8‴), while we find quite a different size in persons who with a powerful will combine high intellectual faculties: there it was only 3″ 7‴ or 4″ to 4″ 5‴; in Ole Bull 3″ 11‴, in Thorwaldsen 4″ 3‴.

5. The measures taken of the middle vertebra of females differed from that of men in a much less degree than did the anterior and posterior vertebræ of their heads, but they varied much from one another respecting the middle vertebra, in accordance with the sphere of feelings, which was now more, now less predominant.

Very remarkable, in this respect, was the result which I obtained by comparing the heads of two great actresses, a mother and her daughter. The former, who is possessed of great dramatic talents, but of a steady and very reflecting mind, shewed a middle cranium only 4″ 10‴ high, and 5″ 1‴, and an occiput 4″ 4‴ high; while her daughter, who is also a great vocalist, and combines with that talent great productive power of imagination as a performer, shewed a middle cranium of 5″ height and 5″ 6‴ width, and an occiput of only 3″ 11‴ high.

A couple of common female prisoners, one guilty of poisoning, the other of child-murder, had only about 4″ 5‴ and 4″ 10‴ height by 5″ 3‴ width.

The height of the occiput amounted, in females, usually but to 4″; and of all the measured heads none exceeded 4″ 4‴; while we have ascertained that in men it reaches 4″ 8‴, which circumstance is in perfect accordance with the well known inferior energy of the other sex.

6. Relative to the different indication that we can gather from the height and width of the cranial vertebræ, my observations have been in accordance with the above statements. Of striking

character in this respect were Goethe and Schiller. The latter, famous for his great tendency towards ideal philosophy, had a front of great width; while Goethe, whose intellect was as eminent in acute conception and observation of objects as rich in productive power, had a front of great convexity, but less width.

Similar instances, of an opposite character, can be abundantly found: Rauch, the excellent sculptor, shewed an anterior cranium 5″ 4‴ high, but only 4″ 7‴ wide; while Purkinje, a man of an acute reflecting mind, had only 5″ height, but 4″ 9‴ width.

A distinct parallel appears, in like manner, to exist between the difference in height and width of the middle cranium and the different dispositions in the sphere of feelings, the latter being either of a more subjective or objective nature.

Inconsiderable height, combining with great width, indicates a character decidedly and thoroughly influenced by external circumstances (thus in the skull of the above mentioned criminal, accused of poisoning, the width, 5″ 3‴, surpassed the height, which was 4″ 5‴). The reverse indicates a character which is ruled by its own subjective feelings (the head, for instance, of a woman who, from fanaticism, became the victim to a serious derangement of the mind, shewed a height of 5″ 5‴, which was surpassed only in a trifle by the width, the latter having been 5″ 8‴).

In the occipital vertebra the height appears to have a relation to muscular power, while its width refers more to the motives and sexual energy of the individuals. A proof of what has just been stated is given to us even in ancient times, where the artists, hardly conscious of it, have represented this energy in the sign of a bull's neck, as we see, for instance, in the statue of Hercules and the fine specimens of the fauns. The same has been confirmed by many measures which I myself have taken from different individuals.

7. Finally, by comparing the width of the auricular vertebra with that of the orbits, I have constantly found a criterion which has enabled me to distinguish clearly between an individuality influenced more by his organ of sight, and another who is influenced more by his acoustic faculty. It affords a wide field for reflection that in the head of Talleyrand, who said that "speech is given to man to conceal his thoughts," the width of the auricular vertebra surpassed that of the orbital region by 18‴, and in that of Ole Bull by 17‴; while in Thorwaldsen the width of the auricular vertebra surpassed that of the orbits only by 13‴; in that of Napoleon and the landscape painter, Dahl, by only 12‴.

Upon thus arriving at the end of my communication, I beg to express a wish that they may attain the aim for which they are intended, namely, to instigate professional men to a deliberate study of cranioscopy, to induce artists and well-educated persons in general to direct their observation to the enormous variety of forms in the human head, and to derive, by comparing the corresponding faculties of the psyche, some important and interesting results which will bear upon the study of anthropology; and finally, I have attempted to establish amongst the public at large a due degree of respect for, and acknowledgment of, the importance of cranioscopy, a study which, when truly based, deserves, like every other science, to be ranked amongst the ever valuable and spiritual heirdoms bestowed upon mankind.

10, Carthusian Street, Charterhouse Square,
July 26, 1844.

USE OF THE TROCHLEA OR PULLEY, GENERALLY, IN THE ANIMAL ECONOMY.

To the Editor of the Medical Gazette.

Sir,

As an appendix to the communication which lately appeared in your pages on the use of the trochlea, permit me to add the following observations. Formerly, I was accustomed to regard this as an apparatus in the animal economy *sui generis*; overlooking other contrivances whose use seems analogous, if the opinion I have advanced be correct. It may, perhaps, not be deemed impertinent to remark, that the various degrees of adhesion (or obstacle to motion of bodies at rest, in contradistinction to friction) depends upon the breadth, the form, and the elasticity of tangent surfaces. Thus, there would be no adhesion in a material globe and tangent plane, if both were perfectly hard. A considerable adhesion, however, is produced

by the wheels of a railway engine, by reason of the want of absolute hardness, still more by the break, because the tangent surfaces are larger, and most of all when a cord or band is wound many times round a fixed beam or cylinder, by which the smallest force would be made to counteract the greatest force, as a man at one end of a cable wound round a ship's windlass keeps the largest anchor suspended at the other. To fix the arm in order to some nice manipulation, as in removing a cataract, we rest our elbow on the hip, and the little finger on the patient's temple for a *point d'appui*. But, whatever steadiness the hand has, independent of these auxiliaries, as also the stability of the foot, is owing, in the writer's judgment, to the contact of tendons with certain ligaments, on the principle of the break.

Thus it would appear that the office of such ligaments as the lig. carpi commune dorsale, the lig. carpi volaria proprium et commune, together with the lig. cruciatum, is not merely to confine the tendons in order to beauty and compactness, but that it is also to compensate the difference of countervailing forces. For the foot represents a lever of the second kind, viz. that in which the weight is placed between the power and the fulcrum. If we raise ourselves on tip-toe, the toe becomes the fulcrum, and the flexor muscles (the gastrocnemii and soleus) the moving powers; whilst by standing on the heel the order is reversed, this being the fulcrum, and the extensor muscles the moving power. But when these contending powers are both exercised together, as in standing, the crucial liagament, like the trochlea when the eye is at rest, takes on its passive function. Here, however, the analogy ceases, since the antagonist muscles of the extremities, whatever be those of the eye, are voluntary. I propose returning to the subject ere long, unless, indeed, my position should in the meantime be refuted, or prove to have been already anticipated by others. It is hard now-a-days to discover any thing new under the sun, and therefore with becoming diffidence, I subscribe myself, Mr. Editor,

Your obedient servant,

ZETA.

August 22, 1844.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Manual of Medical Jurisprudence. By ALFRED S. TAYLOR, Lecturer on Medical Jurisprudence and Chemistry in Guy's Hospital. Post 8vo. pp. xiv. & 679. London, 1844. Churchill.

WE venture to say, that there was but one feeling on the part of the profession connected with the "Elements of Medical Jurisprudence," by Mr. Taylor, of which the first volume appeared so long ago as 1836; this feeling was regret that the work was not completed. The promise was so full, the ability displayed so unquestionable, that all who felt jealous of the honour of our national medical literature hailed with delight the appearance of a comprehensive and original work of English growth, on one of the most important and difficult departments of our science. The work, however, went no farther than the first volume. The scale upon which it was commenced, and the form of publication together, would have rendered it impossible to complete the work in less than four goodly octavo volumes; and as these are not the days which insure success for books on science in any save the most economical forms, probably both Mr. Taylor and his publisher took alarm. We should have been pleased, then, each year that has passed since 1836, to have seen Mr. Taylor proceeding with his labour; we should have had means of better information than we possessed till very lately within our reach, and so we should have been more *au fait* in matters of state medicine than we were. But the delay that has occurred has doubtless worked for good: our author is some years older than he was in 1836; he has pursued his subject with unabated zeal during all this time, and instead of having the tree, however richly laden with blossom, to admire, we have now the bough bending under ripe fruit, which we gather with assurance not only of its safety but of its wholesomeness. And then, instead of four octavo volumes, we have the results of Mr. Taylor's accumulated experience in a single volume, of the most elegant typography and paper that can be conceived—a

book for the drawing-room table rather than the student's dusky shelf.

By *medical jurisprudence*, says Mr. Taylor, we are to understand that science which teaches the application of every branch of medical knowledge to the purposes of the law, and he vindicates its claims on the attention of the profession on two grounds: 1st, because the subjects of which it treats are of practical importance to society; and 2d, because they are not included in the other branches of a medical education. He who pays any attention to the accidents that are every day occurring in connection with coroners' inquests, criminal trials, and commissions de lunatico inquirendo, must, we should think, have his eyes widely opened to the vast importance to the community of this medical jurisprudence, which is a kind of crown or blossom of the entire of the medical sciences, in their relations to society, just as physic, and surgery, and midwifery, are their crown or blossom in reference to the individual.

How nobly did our profession show in the late most interesting trial of Belany for the murder of his wife, some comment upon which we made in our last week's GAZETTE. But this is only the last instance in which our services to the community were brought into a somewhat prominent position. And as we have happened to touch upon this point, we think that we cannot do Mr. Taylor greater justice, nor our readers a greater favour, than by extracting the principal part of his chapter on "Poisoning by hydrocyanic or prussic acid."

"Poisoning by prussic acid," he says, page 250, "is commonly the result of suicide or accident; it cannot be easily administered with a murderous intent, except where it may be substituted for medicine." This is rather a curious coincidence with the direction which our suspicions took in connection with Belany — we all thought he had given the dose with the tea-spoonful of Epsom salts. Wherefore "it cannot easily be administered with a murderous intention," we own we do not see quite clearly. Mr. Taylor then goes on to describe the symptoms produced by prussic acid.

"*Symptoms.*—The time at which these commence in the human subject has not been accurately ascertained, because the case is seldom seen until the patient is dead. When a large dose has been taken, as from half an ounce to an ounce of the diluted acid, —the symptoms may commence in the act of swallowing, or within a few seconds. In no case, probably, is their appearance delayed beyond one or two minutes. When the patient has been seen at this period, he has been perfectly insensible: there was convulsive respiration at long intervals, and the patient appeared dead in the intermediate time.

"The following case, communicated to me by my friend Mr. French, occurred in June 1837:—it presents a fair example of the effects of this poison in a fatal dose. A surgeon in large practice swallowed seven drachms of the common prussic acid. He survived about four or five minutes, but was quite insensible when discovered, *i. e.* about two minutes after he had taken the dose. He was found lying on the floor, senseless,—there were no convulsions of the limbs or trunk, but a faint flickering motion was observed about the muscles of the lips. The process of respiration seemed to cease for some seconds:—it was then performed in fits, and the act of expiration was remarkably deep, and lasted for a long time. The deceased swallowed the poison while ascending the stairs; his body was found on the landing. The bottle had rolled some distance from him, and the stopper was lying in another direction.

"Simon mentions a case in which an ounce was taken, and the symptoms were precisely similar. There was besides coldness of the hands and feet; but no pulse was to be felt. In all such cases, the breath exhales a strong odour of the acid. Convulsions of the limbs and trunk are sometimes met with among the symptoms. The finger nails have been found of a livid colour, and the hands firmly clenched."

He then goes on to speak of the post-mortem appearances, which he describes as slight and insignificant.

"On opening the stomach, the odour of prussic acid is commonly very perceptible for several days after death. If death has been rapid, and the inspection recent, all the cavities, as well as the blood, have the odour: but the organs of persons who have died from natural causes have been occasionally

found to present a similar odour. I once perceived it in the brain of a subject who had died from ordinary disease, and whose body was examined soon after death. Again, it is not always present in poisoning by prussic acid. The odour was not perceptible in the body of a youth who had been killed by three and a half drachms of the acid, and whose body was inspected thirty hours after death. In a case reported by Dr. Geoghegan, where a man swallowed an ounce of prussic acid, and was found dead, the only morbid appearance of note discovered, was a patch of dark red extravasation under the mucous membrane of the stomach, near the pylorus. The stomach, in this case, exhaled the odour of hydrocyanic acid, although it had been exposed for three days, but the poison was then easily detected by the usual means in its contents. From this account it will be perceived, that there is nothing to be derived from an inspection of the body at all characteristic of the mode of death; and probably no suspicion would be excited, except for the presence of the well-known odour.

"*Quantity required to destroy life.*—This is a very important question: and it is made somewhat perplexing by the fact, that, beyond a certain dose, the weak and the strong acid appear to act with equal rapidity (Christison, 658). It has been already stated (antè, p. 70), that six drops have been found to destroy the life of an animal—as rapidly as one ounce of the same acid—the animals being alike in strength and vigour. If any inference could be drawn from these experiments applicable to the human subject, it is clear that the view often adopted, of the rapidity of death being in proportion to the largeness of the dose, is erroneous. This view may be true to a limited extent; but it appears to me that a most improper application of the doctrine has been made from a few experiments. Admitting that two drachms of Scheele's acid will certainly kill an adult within a given period, it by no means follows that four times that quantity would kill a similarly constituted person within one-fourth of that period. Yet this has been made the basis of evidence by medical witnesses, as if it were a positively established fact. I have sought through works on toxicology, and our periodical journals, in vain, for facts by which such a view could be supported. It is directly opposed to what we observe in the action of other poisons; for it is in general impossible to say within what time a case will prove fatal, from the actual quantity of poison taken. In a case related by Dr. Geoghegan, a quantity of the acid, equal to almost twenty-eight drops of the English pharmacopœial strength (at two per cent.), was taken by a gentleman without any effect, the dose having been gradually raised to this point, but no bad consequences whatever had resulted from the quantity previously taken; he now raised the dose to thirty-seven drops, and in two minutes he was seized with the usual symptoms, and nearly lost his life (Dublin Med. Journ. viii. 308). The quantity of strong prussic acid swallowed in this dose was less than three quarters of a grain, which is the largest quantity I have known to be taken without destroying life. This case shews that there is a very narrow line between the quantity of the poison which may be taken with impunity, and that required to produce death. In determining the quantity necessary to prove fatal, we must, it appears to me, avoid the results obtained by experiments on animals, and look to those facts only which have been ascertained from observation on the human subject. In general, the quantity taken is extremely large; but the smallest dose which is reported to have caused death was in the case of seven patients in one of the hospitals of Paris. By mistake, a dose equal to 0·7 grain of real acid was given to each patient, and they all died in from thirty minutes to three quarters of an hour. The symptoms began in ten minutes, and there were in all, at first convulsions and then coma. This quantity would be equivalent to about thirty-five drops of the pharmacopœial acid, and to fourteen drops of Scheele's. It has just been stated, that Dr. Geoghegan's patient, who took a similar dose, recovered. A case is related by Sobernheim of a physician at Rennes, who swallowed a teaspoonful of Scheele's acid, and some hours afterwards, another teaspoonful of Vauquelin's acid. The two doses were equal to about one drachm and a half of Scheele's acid. In a few minutes he fell senseless, and was seized with convulsions and tetanic spasms. He recovered his senses, and was able

to prescribe for himself in about three hours, but he did not wholly recover for thirteen days. Admitting that the strength of the acid was as represented, this is the largest dose which has been taken without causing death; but knowing what uncertainty there is on this point, and that, in the Parisian cases, seven persons were killed by doses equivalent to only one-third of this quantity,—I am inclined to think, that the acid, which had been prepared by himself, could not have been so strong as it was suspected to be. In answer to a question of this kind, it appears to me we should be justified in saying, that a dose of Scheele's acid above twenty drops, or an equivalent portion of any other acid, would commonly suffice to destroy life.

"*Period at which death takes place.*—Some remarks have already been made on this subject, and it has been particularly stated that beyond a certain point, we are not entitled to infer, that the rapidity of death bears any proportion to the quantity of poison taken. Experiments on animals might be adduced to prove either the negative or the affirmative of this proposition: a fact which clearly shows that they cannot be admitted, in this particular, as a basis for medical evidence. In the Parisian cases, where the same dose was given, death took place at very different periods—some died in a few minutes, and others only after three quarters of an hour. In one instance, in which seven drachms were taken, death took place within five minutes; in another, in which an ounce was taken, the individual survived in about ten minutes (Sobernheim). When the dose is two drachms and upwards, we may take the average period for death at from two to five minutes. It is only where the dose is just a fatal proportion that we find the individual to survive from half an hour to an hour. In this respect, prussic acid is like lightning—the person either dies speedily, or recovers altogether.

"But although death does not commonly ensue until after the lapse of a few minutes, insensibility, and consequently a want of power to perform acts of volition and locomotion, may come on in a few seconds. The time at which this loss of power is supposed to take place has already become an important medico-legal question, and on the answer to it, the hypothesis of suicide or murder in a particular case, must rest. Dr. Lonsdale says on this point, that a drachm of Scheele's acid would affect an ordinary adult within the minute; and if the dose were three or four drachms, it would exert its influence within ten or fifteen seconds. When the acid is stronger, and the quantity larger, we are pretty certain of its *immediate* action, and the consequent annihilation of the sensorial functions (Ed. Med. and Surg. Journ. li. 50). This opinion is founded entirely on experiments on animals. Dr. Christison ascertained that a quantity of poison, equivalent to two scruples of medicinal acid, did not begin to act on a rabbit for twenty seconds, and certainly, for so small an animal, two scruples are as large a dose as *five drachms* given to a grown-up girl. These statements appear to me to show that experiments on animals cannot enable us to solve this question: we shonld rather trust to the few observations made on the human subject, as well as to analogy from other sources,—as, for example, to the fact of survivorship after the receipt of what are commonly regarded as instantaneously mortal wounds. A case is related by Sobernheim, quoted by Dr. Gierl, where an apothecary's assistant went to a cellar in order to procure a drug. After a few minutes he was heard to cry out, 'hartshorn.' Some persons hastened to the cellar, and found him on the lower steps, just uttering the words 'prussic acid,'—he then fell dead, about five minutes after going to the cellar: it appears that he had tried to remove the cover from the bottle of ammonia, but had not succeeded. The quantity of poison which he swallowed is not stated.

"A case was communicated to me, some time since, by one of my pupils, where a man was found dead on the seat of a water-closet: he had died from prussic acid, and the bottle which contained the poison was found in his pocket, corked. These facts appear to show, that while, as a general rule, insensibility must supervene from a large dose of this poison in a few seconds, the individual occasionally retains a power of performing certain acts, indicative of volition and locomotion. This question was brought to a close issue in a case tried at the Leicester Spring assizes in 1829.

"A young man, named Freeman,

was charged with the murder of a female named Buswell, by administering to her prussic acid. A full report of this case will be found in the MEDICAL GAZETTE (Vol. viii. p. 759). The deceased was a maid-servant in the family of a chemist to whom the prisoner acted as an assistant. The deceased was one morning found dead in her bed: her death was evidently caused by prussic acid, and it was presumed that she had taken four and a half drachms of the poison; the bottle out of which she must have drunk it, or had it administered to her, holding an ounce, and still containing, when found, three and a half drachms.

"Owing to the position, and other circumstances connected with the body when discovered, it was inferred that she could not have taken the poison herself. Her body was lying at length on the bed, the head being a little on one side. The bed-clothes were pulled up straight and smooth, and they came up to the breast of the deceased; her arms were under the clothes, and crossed over the chest. On turning the clothes aside, the phial which contained the poison was found lying on her right side. It was corked, and there was a piece of white paper round it: the leather and string, which appeared to go round the neck of the bottle, were found in the chamber vessel. The medical question was, — Could this quantity of poison have been taken, and the deceased have afterwards performed these acts herself? Five medical witnesses were examined, and the opinions of four of these were strongly against the possibility of the acts having been performed by the deceased. On of these ascertained that a dog, to which the same quantity of acid was given as was taken by the deceased, died in about three seconds. The medical opinion was founded on experiments of this kind, for there were no cases from the human subject by which it could be supported. All the acts to which the opinion referred might be performed in from five to eight seconds, and there is nothing to warrant us in supposing, that under the above-named dose all power would necessarily have ceased before that period had elapsed. Dr. Christison's experiment on the rabbit would lead to the inference, that even five drachms would not begin to act upon a grown-up girl for twenty seconds (668); and the results obtained by the witnesses from their experiments on dogs were by no means uniform, even allowing that they were justified in applying them to so important a question as this. The medical opinion was completely set aside by circumstances, and the prisoner was acquitted.

"A similar case has since occurred in Germany, and is quoted by Sobernheim. A young man swallowed four ounces of an acid (of four per cent.) equivalent to eight ounces of the pharmacopœial strength. He was found dead in bed,—the clothes drawn up to his breast, the right arm stretched out straight beneath the clothes, the left bent at the elbow-joint, and on each side of the bed lay an empty two-ounce phial. There was no doubt of this having been an act of suicide. In deciding a question of this kind, it ought to be remembered, that very few cases have occurred where the poison was swallowed in the presence of a person competent to watch and form an opinion on so important a point; and no experiments on animals can justify us in saying whether insensibility, from a particular dose taken by a human being, began in five, eight, fifteen, or twenty seconds. In the German case, more than three times as much acid was taken as in that of Buswell, but even here there was time for the performance of very similar acts. It is besides much more difficult to understand how the poison should have been taken out of two phials, than out of one.

"Can a man, after having taken prussic acid, live sufficiently long to attempt or perpetrate suicide in any other way? The following case occurred in London in April 1839:—A solicitor's clerk was found hanging quite dead at his chambers. He had evidently taken prussic acid, for a cup was lying near him which had contained that poison. The medical witness here very properly inferred, that the man did not swallow the poison until after he had adjusted the rope round his neck. It could hardly be admitted that a man should have power to hang himself after having taken a large dose of this poison, but a person might be found drowned with prussic acid in his stomach, and without this fact being incompatible with suicide. It is, however, a matter of doubt, determinable only by special circumstances, whether a man could

destroy himself by fire-arms after having swallowed the poison.

"This question often presents itself in another form, namely, whether the act of poisoning was the result of accident or suicide, — a most important question, where the life of the deceased is insured. In general, the circumstances are such as at once to explain the nature of the act; but a medical witness must remember that there is no case in which suicide may be so secretly perpetrated by poison as by means of prussic acid. There are, besides, many ways in which the means of death might be concealed; and as it is so little the custom to cause an inspection to be made of the bodies of those who have died suddenly, unless a suspicion already exists of death having been caused by poison, such cases might easily escape detection. In the event of litigation ensuing, in respect to a policy of insurance, it may be too late to discover any traces of poison in the body. It is proper, therefore, to remark, that the effects of prussic acid may be easily confounded with all diseases which are liable to destroy life suddenly, such as epilepsy, apoplexy, and diseases of the heart.

"The case of Mrs. Maclean, who was found dead in her house at Cape Coast Castle, in October 1838, is interesting to the medical jurist, in relation to the question of suicide or accident. Her attendant, in going to the room of the deceased, found some difficulty in opening the door, in consequence, as it appeared, of the body having fallen against it. The deceased was lying on the floor quite senseless, with an empty bottle in her hand, uncorked, and labelled 'hydrocyanic acid, medium dose five minims.' There was a feeble pulsation of the heart, which soon ceased. It appeared that the deceased was in the habit of taking prussic acid as a medicine, and the medical witness supposed that she might have taken an overdose, and have thus been killed accidentally; he was so fully convinced that the medicine was the cause of death, that he did not open the body. By this omission the case was left in mystery; for had the body been inspected, and the larger portion of the contents of the bottle been found in the stomach, there would have been no doubt of its having been an act of suicide, since a well-informed person like the deceased was not likely to have swallowed by accident a large dose of poison, with the deadly properties of which she must have been perfectly acquainted. If the acid were taken medicinally, and an overdose swallowed by accident, it is singular that the bottle should have been found in her hand; since we cannot suppose that any well-informed person would take prussic acid medicinally, by swallowing it from the bottle itself. In consequence of the omission to inspect the body, it is difficult to say whether this was an act of suicide or the result of accident.

"*Treatment.*—There is no known antidote to this medicine. Experience justifies us in employing stimulants, such as diluted ammonia, to the nostrils, and frictions of the compound camphor liniment to the chest. Chlorine has been strongly recommended to be injected in the state of solution into the stomach; but admitting that it were at hand to be administered in a case of poisoning which seldom lasts above a few minutes, it is a remedy of very doubtful character. It has been proposed to apply electricity in the course of the spinal marrow; but the best remedy, and that which is always applicable, is cold affusion. In experiments on animals this has been found an efficacious mode of treatment, and also in one case in the human subject which is reported by Dr. Banks of Louth. A girl took by mistake in medicine, thirty drops of prussic acid. Immediately afterwards, she sprang up convulsively from her seat, and became senseless. Her teeth were firmly set, and her eyes staring and fixed. Stimulants failed to rouse her:—the limbs became flaccid;—the pupils dilated, and she was wholly insensible;—the respiration was slow, and the pulse scarcely perceptible. A stream of cold water from a pitcher was allowed to fall from some height on the region of the spine. In a minute she began to move, and became convulsed; her symptoms abated, and in a few hours she was quite collected. She recovered in a few days, but there is hardly a doubt that she would have died, had she not been thus treated."

We have selected this chapter on prussic acid both because from recent circumstances we believe it will be felt as interesting, and because even since it was written and sent forth to the world

an antidote for prussic acid has been found. "If," say Messrs. T. and R. Smith of Edinburgh, in a note to a friend, which we have had an opportunity of perusing, "a quantity of a mixed salt of the protosulphate and persulphate of iron be added along with an alkaline carbonate to a solution containing prussic acid, all trace of the acid immediately disappears." Thus doth science advance in her path to enlighten and to save; so do mankind become debtors to those who consecrate their lives to her service!

The interesting summary quoted will give our readers a fair, and no more than a fair, idea of the comprehensive and clear way in which our author treats one of his subjects. Every where, indeed, we find evidences of extensive reading and laborious research; the copious literature both of France and Germany on the subject of Medical Jurisprudence is laid under frequent contribution, and we have the pleasure of meeting with the accumulated stores of science and experience on this branch of knowledge, it may be said of the whole world, condensed and made accessible in this admirable volume. It is, in fact, not only the fullest and most satisfactory book we have ever consulted on the subject of which it treats, but it is also one of the most masterly books we have ever perused. So much precise individual knowledge, under the guidance of judgment and critical powers of so high an order as meet us in every page of Mr. Taylor's work, we have rarely encountered.

MEDICAL GAZETTE.

Friday, Sept. 6, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

THE MEDICAL PROFESSION BILL —No. IV.

THE REGISTRATION CLAUSE—THE FINE UPON EFFICIENCY—PROPOSAL TO LEVY £75,000 FROM THE MEDICAL PRACTITIONERS OF GREAT BRITAIN AND IRELAND.

WE did not at first see the new Medical Bill in the very objectionable light in which it now meets us. We were probably flattered at seeing ourselves made the subjects of special legislative enactment; and the prospect of having the study and economy of the whole medical profession regulated by one comprehensive measure, dazzled our sense. We do not look a gift-horse in the mouth in presence of the donor; but when we have him in the stable, the curiosity we inherit from our mother Eve very certainly leads us not only to look into his mouth, but to examine him point by point; upon which, and having tried how he carries us, we first discover the true worth of the present. So has it been with this Medical Bill. We were every way inclined to entertain it handsomely, to welcome it cordially, and to find its enactments in harmony, so far as this was possible, with the state of things to which we had been accustomed, and pregnant with gradual and progressive professional improvement for the future.

We bitterly regret that we do not find it so. After having thrown open the honourable profession of medicine to all and sundry, tag-rag and bob-tail, and delivered over the ignorant public bound hand and foot to empiricism and incompetence, for no better reason as it seems—

> "Than that the pleasure is as great,
> Of being cheated as to cheat;"

—after having constituted a Council of Health and Education out of impossible elements, our Bill proceeds to enact:—"That a register shall be kept and published from time to time, under the direction of the said Council, of all persons who shall have been examined, and shall have received, and shall exhibit before the said Council, letters testimonial, as hereinafter mentioned, of their qualification to practise as a physician, or as a surgeon, or as a licentiate in medicine and surgery; for

which registry the Council shall be entitled to have from the person requiring to be registered a fee of *five pounds* in the case of a physician or surgeon, and a fee of *two pounds* in the case of a licentiate, which fees shall be applied toward defraying the expenses of this Act; and every person whose name shall be so registered, who shall be desirous that his name shall be continued in the published register, shall in the month of *January* in every year send to the said Council his name and place of abode, with the date of his testimonials; and the Council shall verify the returns so made to them by comparison with the register kept by them, and shall forthwith cause the names of all persons duly registered and so returned to them to be published in alphabetical order in their several classes, with their several places of abode, and dates of their testimonials."

Now it may be a good thing to make and publish a register of the regularly-educated men, physicians, surgeons, and licentiates in medicine, but it is nothing new, and we cannot see the propriety of their being made to pay for it. The thing is already now done by the College or Society to which we severally belong, free of charge to us individually. Having already paid handsomely for our diploma, license, or certificate, as the case may be, we peremptorily object to this proposition to pay any more.

The pretext for the registration fee of £5 and £2 is, that the expenses of the act may be thereby defrayed. Now we believe that a private act of parliament, which is unopposed, may be had for about £500; and here, of course, every body is feed for his trouble of preparing and carrying it through, from the clerk who draws it up in form, to the Right Honourable Member, it has been said, who takes charge of it in its progress through the House. But a public act is prepared at the expense of the country; and the medical profession ought no more to be required to contribute to the expense of any act having reference to its members, than the honest trader should be required to pay the expenses of the act that is to protect him against the contraband dealer. With what shadow of justice, above all, could the fair trader be required to pay for an act that was to leave him subject to all his old liabilities and burthens, and to put the contrabandist upon a footing of perfect equality with him? And yet is not our new Medical Bill a proposition of this very kind?

The price of a private act of parliament, we have said, may be about £500; and we of the medical profession are required to pay for our Bill. Let us see what the sum may be which might be raised on the strength of the registration clause strictly enforced. We are in all, it is said, about 30,000 strong in the medical profession in these isles; of this number about 5000 may practise as physicians and pure surgeons, and 25,000 as general practitioners. At the rate of £5 per head from the doctors and chirurgeons, the sum that would be levied would obviously be £25,000; at the rate of £2 per head from the general practitioners, the sum raised would as obviously be £50,000. £25,000+£50,000=£75,000! verily a handsome sum to be taken from the pockets of a poor profession at one fell swoop! Sir James Graham must certainly have another motive for his bill than any that appears in its clauses: he cannot propose the levy of £75,000 as a means of covering an outlay of at most £500; he must be bent on making money of us,—of us whose lives are a ceaseless exercise of the charities that are dearest to man, and whose remuneration is either nothing, or entirely contingent on the power of the party who requires our aid to pay!

We will suggest another course to the Right Honourable Baronet, the Secretary for the Home Department, which he may discuss with the Chancellor of the Exchequer—it is the right one, we feel persuaded. What would he say to leaving us of the regularly educated profession out of the question entirely, and insisting on the very respectable gentlemen who carry on the practice of medicine without any education at all enrolling or registering themselves forthwith, and paying—what shall we say?—£5 per capitem for the privilege? This would be sense, this would be fair; we of the regular profession do not want to be enrolled. We are like the inhabitants of a generally respectable street, who do not place a man before each of their houses with a lantern to signify that it is a respectable house; but who set a man with a lantern before the single peccant domicile of the row, admonishing way-farers of the propriety of shunning bad houses: "good wine wants no bush;" and his fair fame, and his name on a brass plate to indicate his residence to whosoever seeks it, suffice the educated practitioner. Because I have vindicated my claim to consideration and to confidence, am I therefore to pay, *i. e.* to be subjected to a penalty? This appears to us a sad solecism; it is unquestionably a new feature in legislation at all events, and such a one as could only be vindicated by a desperate state of the public exchequer. I have hitherto done honourably and well; I have complied with all the requirements of the College or Company to which I belong; I have spent a large sum of money on my education, and given the prime of my life to the acquisition of professional knowledge; I have farther stood the test of competency, and obtained a testimonial to my trustworthiness, and therefore am I to be amerced to the extent of £5 or £2, according to my position in my profession?—Not to the extent of fivepence, nor yet of twopence, Sir James Graham, if we should die for it, or, in peril of our lives from starvation, if we should be forced from our homes, to "distant barbarous climes, rivers unknown to song," as the poet has it. These barbarous climes would at all events have their skies unclouded by Cæsars hanging blankets between us and the sun, these rivers would have their waters undisturbed by absurd legislation. Such will be the answer of the members of the medical profession to any so palpably unjust proposition. And here we leave our readers for the present.

MOVEMENT IN THE PROFESSION.

THE ferment does not subside. A good deal of scum shows itself on the surface, and doubtless a like proportion of dregs (though these do not appear) go to the bottom; but the liquor between the froth and the lees appears to acquire body, and generally shows itself bright and pure. We trust, as we have entered on this brewing figure, and are reminded thereby of our old friend Robert Burns, that a "loving cup" may yet crown recovered tranquillity among us. Burns says:—

> "When neighbours anger at a plea,
> And are as wud* as wud can be,
> How easy can the *barley-bree*
> Cement the quarrel!
> Its aye the cheapest lawyer's fee
> To taste the barrel."

We have a copy of proceedings at a meeting of the medical practitioners of the county of Surrey, held on the 22d August, at Epsom, for the purpose of taking into consideration the Bill for the better regulation of the medical profession; Mr. Martin, of Reigate, in the chair.

Resolutions were passed condemnatory of the proposed Council of Health

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* *Wud*, mad.

and Education, of the proposal to remove all restrictions and penalties upon unlicensed practitioners of medicine, and of the Bill generally, as likely to be greatly prejudicial to the interests of the profession of medicine, and to the public welfare. Other resolutions were passed, approving of the manner in which the Court of Examiners of Apothecaries' Company had exercised their powers, and expressing an opinion that an act to amend that of 1815 might be so constructed as to meet every present difficulty, and attain all the objects sought for by the profession in general.

On Monday evening, the 2d inst. according to a notice which has been sent to us, the Committee of the East London Medical Association met for the purpose of considering the bill lately laid before Parliament by Sir James Graham, and passed resolutions expressive of unqualified disapprobation of the measure, "inasmuch as the Committee conceive that it must prove highly injurious to the public at large, and most ruinous to the profession. They consider the absence of all restrictions to the practice of medicine beyond the mere disqualification of holding public appointment deeply to be lamented, as it is evident that the mass of the population cannot possibly discriminate between the ignorant pretender and the regularly educated practitioner."

Another resolution was to the effect, that the cordial thanks of the profession and the community at large were eminently due to the Society of Apothecaries for their exertions to improve the education and raise the character of the general practitioner.

A third was a vote of thanks to ourselves for the manner in which we had exposed the inconsistencies of Sir James Graham's proposed measure.

On the 3d inst. a numerous meeting —the *Times* says there were 100 present—members of the medical profession was held at Exeter Hall under the shield or on the summons of the Medical Protection Association, Mr. Asbury, of Enfield (!) in the chair. The purpose of this meeting was rather special or partizan than general—it was particularly to find fault with the Council of the Royal College of Surgeons for declining to receive a deputation from the association. Dr. Lynch was the leading speaker, and poor old Mr. Carpue, as a grand stalking-horse of all medical malcontents, was paraded as usual. Mr. Wakley was present, but seems only to have come forward upon somewhat urgent solicitation. He expressed himself as delighted with the spirit which had manifested itself in the profession; declared that the Council of the College of Surgeons had placed the great body of its members in the most degraded position before parliament and the country, and described the new charter as a bill of pains and penalties amongst members of the College at large. Finally, he exposed Sir James Graham as a grand medicine or mystery man, a brother of him of the Ioways, and like him prepared to practise and protect quackery.

A handbill, it seems, was circulated pretty freely to the parties who attended the meeting. We of the MEDICAL GAZETTE are not in the secret of these things, and cannot make any comment on its contents.

COLLEGE OF CHEMISTRY.

WE observe with much satisfaction, from a prospectus which has just reached us, that it is the intention of certain Noblemen, whose names are usually most prominent in all aitempts to advance agriculture, to establish a College or High-school of Chemistry, associated with a laboratory for original research, after the manner of the Giessen school. A similar design was long ago entertained by Sir Humphry Davy, but was frustrated by his pre-

mature decease. In the present state of chemistry on the continent we have a demonstrative proof of the great results which would inevitably have flowed from it had it been carried into effect twenty years ago. Our own backwardness at the present moment renders it high time that some efforts should be made to place this science upon a better footing, to give it an impulse and a direction corresponding in some measure to the vigorous advances it is making in France and Germany. We sincerely hope that since the higher patrons of science are ready to bestow their time and their money upon an undertaking of this kind, they will not lack the co-operation of the medical profession; to every member of which, chemistry in its application to physiology and pathology is of paramount importance, and scarcely less so to the improvement and extension of the materia-medica. The plan we perceive embraces the formation of local committees in country towns and districts, and we should think that country practitioners could not dispose of their leisure better than by assisting to establish the College of Chemistry.

INCREASED MORTALITY AMONG CHILDREN UNDER THE HANDS OF UNEDUCATED PRACTITIONERS,

AND FROM WANT OF ALL MEDICAL ATTENDANCE.

Some short time ago, Mr. Chadwick did us the favour to send for our perusal what he believed to be an important communication from Mr. Leigh, surgeon, Manchester, upon the above subject, and suggested that Mr. Leigh should be written to, and his permission asked to publish his letter. This was done, and the following is Mr. Leigh's manly reply to our note:—

To the Editor of the Medical Gazette.

Dear Sir,—In reply to your note of Aug. 20th, I beg to place at your entire disposal the letter I addressed to Mr. Chadwick on the 3d May. Should you feel disposed to publish it in the Medical Gazette, with or without any comments, I shall have not the slightest objection to your doing so; but, conceiving the subject to be of great importance both to the public and the profession, I shall be happy to furnish you with any additional information in my power. I shall be glad to find that the subject is taken up by the profession in a proper spirit, and so forcibly brought before the legislature as will insure at once to the profession that protection which it has a right to demand on the score both of the cost and the education of its members; and to the public a safeguard against the wholesale destruction of life which results at present from fraudulent incompetence on the one hand, and gross ignorance of the necessary qualification of a medical practitioner on the other.

I happen to hold the office of Registrar of Births and Deaths in Manchester at present, and I believe that I do not exaggerate when I say that nearly one-third of all the deaths of children that I register appear to have been from remediable diseases, and that the deaths have occurred either under the necessarily improper treatment of uneducated persons, or, what is nearly as bad, from no treatment at all.

I am, dear sir,
Yours very truly,
John Leigh.

St. John's Street, Manchester,
Aug. 31, 1844.

The letter addressed to Mr. Chadwick is as follows:—

Sir,—I have taken the liberty of again addressing a few observations to you on the mortality of children, more particularly in connection with medical quackery. During the quarter ending March 31, 1843, I have been very particular in ascertaining with as much precision as possible, the causes of death in children. When they had regular medical attendance, I have sought the information from the attending surgeons, and in other cases by a careful inquiry into the history and symptoms of the diseases. I am, therefore, disposed to believe, that the causes of death have been registered in my district during the last quarter with more than usual accuracy, and rely therefore on the table I have formed with much confidence.

The total of births registered during the quarter is 311, and of deaths 245.

Of the latter, 134 were of children

under five years of age, and may thus be classed:—

Under 1 year old	56
More than 1 year old, and under 2 years	37
More than 2, and under 3 .	15
„ „ 3 „ „ 4 .	12
„ „ 4 „ „ 5 .	14
	134

The causes of death may be thus classed:—

Measles	19
Scarlatina . . .	11
Peripneumony. .	34
Croup	8
Hooping Cough .	4
Convulsions . .	18
Hydrocephalus .	11
Marasmus . . .	14
	119

The rest being from irregular causes.

Of these 134 children I ascertained that 30 were attended by *retail druggists who had received no medical education*; whilst 4 had no advice or attendance of any description.

I think that I stated to you, some time ago, that I thought I had registered annually about 100 deaths of children who had had no proper medical attendance; I felt satisfied that this was below the truth, for this quarter would give an annual number of 156; and even this, great as it appears, I am as well satisfied is very greatly below the real number; for I have ascertained the facts only by an indirect system of questioning, being apprehensive that direct and pointed questions on the subject put to the informant might be deemed impertinent, and lessen the present good repute of registration. From the answers I have received I have been convinced on many occasions that the cases had been attended by druggists alone, though the informants would not confess it. These cases I have taken no notes of; the others, viz. the 34, I have positive information of.

I requested my friend Mr. Bennett, the registrar for Ancoats district, and the only other medical man who is a registrar in this, the Manchester, Union, to make a similar series of observations; he has done so, and found less difficulty in arriving at the truth: he has obligingly furnished me with the results of his inquiries.

During the quarter ending March 31st, 1843, he registered the deaths of 212 children under 5 years of age. Of this number only 78 were attended by properly educated medical practitioners; and 134 were either attended by druggists or had no attendance of any description, being at the rate of 536 per annum in this district alone! This number is perfectly astounding, and calls for some immediate steps to abate so great an evil. For that an immense number of these little creatures were sacrificed to ignorance or negligence, there can be no doubt.

The poverty of the population in the Ancoats district, with the very limited number of medical practitioners in it, are to be ascribed as the chief causes, together with the facilities afforded in running to the nearest druggist's shop. But the druggists do more than merely prescribe medicines over the counter, they also visit and attend parties at their own homes. I myself was called a short time ago to visit a patient labouring under hydrothorax, which had come on from grossly improper treatment. She had been attended by a neighbouring druggist, who seeing his patient rapidly sinking, got frightened, and left the case. He then wanted to attend the case with me; but this I of course refused. The patient ultimately got well, but had she died the man ought to have been tried for manslaughter.

Mr. Bennett has classed his cases much in the same manner that I have done, and it will be seen that most of them are incidental to, and naturally resulting from, the winter season, viz., peripneumony or inflammation of the lungs, croup, the pulmonic affections supervening on measles and scarlatina, hydrocephalus, many of the cases acute, and hooping cough, amounting to 97 in my district the other 32 not affecting any particular season.

The mortality in my district this quarter, then, amounts to considerably more than two-fifths of the whole children born before they attain the age of five years, and this is below the average, for in some quarters the mortality of children has been more than one half of the children born. Now these dis-

eases that I have just specified, although when neglected almost certainly fatal, are when early attended to very much within the reach of medical treatment. Acute inflammatory diseases rapidly run their course in children, whose great excitability renders them very prone to take on this action; but medical men do know how to combat and subdue inflammation, and when called sufficiently early, they in most cases succeed. I have before me the reports of the dispensary for children of this town, situated just on the verge of my district.

In the report 1841-2, it appears that 1680 cases were admitted as patients and treated by the officers of the institution, and of this number 75 died: being at the rate of 4·4 per cent. only. This fact alone shows how remediable are most of the diseases of children. I regret that no classification of the diseases has been published by the officers of this institution; it would have possessed great interest in connection with this question.

I trust, sir, you will not deem this information unimportant; it has been forced on my mind in the ordinary exercise of my duties in the office I hold as registrar, and when it is considered that it is perhaps a more fruitful source of mortality than any other single cause whatever, you will allow that it calls for some special interference. More lives are annually sacrificed to ignorance and negligence than to any single cause whatsoever, whether of accident or disease. One half of all the children born in this part of the country are swept off before attaining the age of five years.

I have confined my observations to children solely, because in these the mortality is greatest, and the responsibility of those having the management of them also the greatest.

When disease occurs in adults they generally get for themselves better treatment than they obtain for their children. They have either a private medical attendant, or they are members of some club, or they avail themselves of the medical charities or the services of the Union surgeons; but their progeny, when disease overtakes them, are suffered to perish without assistance, or the useless or pernicious advice of some ignorant empiric hurries them on to the grave. The little sufferers cannot tell their ailments, and opiated cordials are employed to still their cries and lull them into the sleep of death.

If any further remark or tables connected with these subjects will be acceptable to you, I will do my best to obtain them.—I am, sir,

Your obedient servant,

JOHN LEIGH.

6, St. John's Street, Manchester,
May 3, 1843.

[Such a document as this speaks volumes, and shows how short-sighted and ill-informed are those who would leave the ignorant public without protection. We have no access to great people; we are only known to our brethren as a zealous labourer in the professional vineyard—a stony and somewhat niggardly field it is—upholding the honour and vindicating the importance to the community of our noble calling; but we shall take care that it be their own fault if Sir James Graham and Mr. Macaulay are not made acquainted with the important letter of Mr. Leigh, for we have requested our publishers to forward a copy of this number of our publication to the residences of both of these gentlemen.—ED. GAZ.]

PRODUCTION OF FALSE MEMBRANES

FROM THE MUCOUS SURFACE OF THE BLADDER UNDER THE INFLUENCE OF CANTHARIDES APPLIED TO THE SKIN.

BY M. MOREL-LAVALLEE.

ALL the world knows that considerable irritation of the urinary passages occasionally ensues upon the application of a blister, or from the internal exhibition of cantharides. M. Morel-Lavallée has quoted four cases in which this irritation went the length of producing false membranes, which were expelled in shreds from the urethra, and bore an exact resemblance to the false membranes that sometimes form on a blistered surface of the skin. In these cases there was a considerable quantity of albumen in the urine. The author had not himself had any opportunity of examining the state of the vesical mucous membrane during the production of false membranes; but he refers to a case, reported by M. Vidal de Cassis, of a female who had died of a pleurisy, for which repeated blistering had been employed in vain, in which the membrane in question was found "red and thickened, like the conjunctiva in purulent ophthalmia."—*Comptes Rendus, Juillet* 1, 1844.

NUMBERS OF THE MEDICAL PROFESSION IN GREAT BRITAIN.

From the answers and returns made pursuant to an Act, entitled, "An Act for taking an account of the population of Great Britain," just published, it appears that there are of

	Surgeons and Apothecaries.		Physicians.
	20 Years of Age and upwards.	Under 20 Years of Age.	Over 20 Years of Age.
Great Britain	17006	1652	1476
England	14102	1320	1063
Wales	526	75	30
Scotland . . .	2237	248	364
Isles in the Brit. Seas	141	8	19

INOCULATION OF VERATRINE IN NEURALGIA.

M. Lafargue transmitted to the Academy an account of the good effects he had obtained in facial neuralgia from the inoculation of veratrine. The veratrine is mixed with a drop of water, so as to have a suitable consistence, and is then introduced exactly as in inoculation with the vaccine virus. Directly on the operation being performed, the patient experiences a pricking sensation in each puncture, similar to that caused by reiterated pricks of a needle; this sensation begins to lessen after the lapse of ten minutes, and disappears in about an hour. M. Lafargue repeats the operation night and morning, making about a dozen punctures at the point where the pain is most severe. In limited paralysis, especially of sensation, the same proceeding is very advantageous.—*Gazette Médicale.*

BOOKS RECEIVED FOR REVIEW.

The Dispensing Chemist's and Medical Pupil's Assistant; containing Latin Directions, with their Translations, for every species of Medical Prescription. By John F. Burke, Member of the Royal College of Surgeons.

Researches into the Physical History of Mankind. Vol. IV. By James Cowles Prichard, M.D. F.R.S. &c.

Hints to Mothers for the Management of Health during the Period of Pregnancy, and in the Lying-in Room. By Thomas Bull, M.D. &c. 4th Edition.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Gentlemen admitted Members on Friday, Aug. 28.—C. P. Slaytor.—G. Fitzgerald.—J. S. Maskew.—G. Love.—W. Rankin.—R. Le Marchant.—T. M. Morton.—F. Barnett.—J. M'Gowan.—G. M'Culloch.—G. Flint.—R. White.

Aug. 30.—W. Finer.—D. Hamilton.—J. Pearson.—G. Manning.

APOTHECARIES' HALL.

Gentlemen who have obtained Certificates, Aug. 29.—J. T. Sharp.—J. Woods.—J. Clifton, Welton, Wiltshire.—W. Clegg, Devonport.—J. Heynes, Bagshot, Surrey.

NOTICE TO STUDENTS OF MEDICINE.

August, 1844.

The attention of Pupils proposing to enter at the different Medical Schools in October next, is particularly directed to the following Regulation of the Court of Examiners:—"That no Ticket will be registered unless it is dated within seven days of the commencement of the Course of Lectures to which it has reference."

By order of the Court,
H. Blatch, Sec.

MORTALITY of the METROPOLIS.

Deaths from all causes registered in the week ending Saturday, August 24.

Dropsy, Cancer, Diseases of Uncertain Seat	103
Diseases of the Brain, Nerves, and Senses	141
Diseases of Lungs and Organs of Respiration	194
Diseases of the Heart and Blood-vessels	32
Diseases of Stomach, Organs of Digestion, &c.	85
Diseases of the Kidneys, &c.	8
Childbed	6
Paramenia	0
Ovarian Dropsy	1
Disease of Uterus, &c.	4
Arthritis	0
Rheumatism	2
Diseases of Joints, &c.	7
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	1
Diseases of Skin, &c.	0
Old Age or Natural Decay	63
Deaths by Violence, Privation, &c.	21
Small Pox	47
Measles	23
Scarlatina	93
Hooping Cough	9
Croup	8
Thrush	11
Diarrhœa	29
Dysentery	4
Cholera	3
Influenza	0
Ague	1
Remittent Fever	1
Typhus	32
Erysipelas	6
Syphilis	1
Hydrophobia	0
Causes not specified	0
Deaths from all Causes	936

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, SEPTEMBER 13, 1844.

LECTURES

ON THE

NATURE AND TREATMENT OF DEFORMITIES,

Delivered at the Orthopædic Institution, Bloomsbury Square.

By R. W. Tamplin, F.R.C.S.E.
Surgeon to the Institution.

On Talipes Equinus.

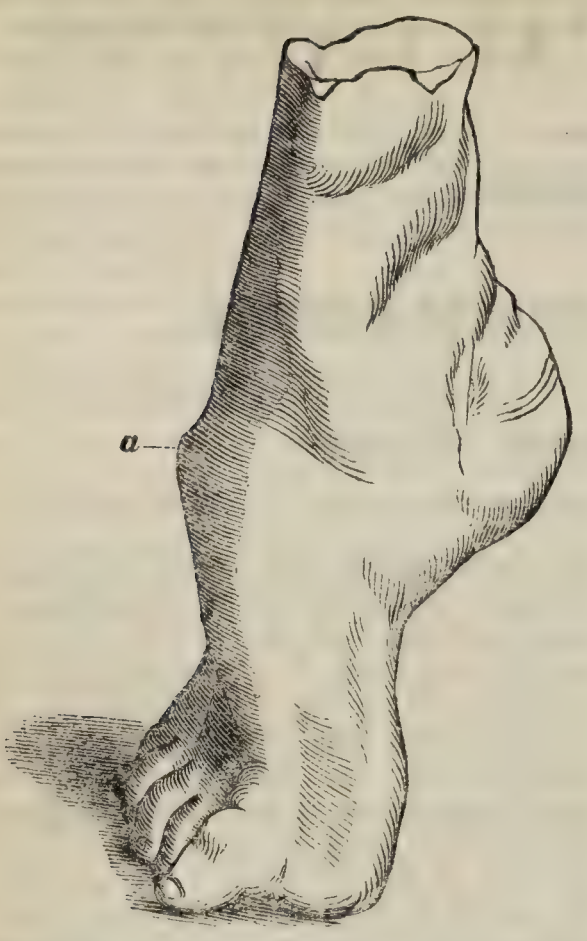
The plan I propose to adopt in these lectures is this:—I shall first direct attention to the deformities of the feet; the treatment of these being the groundwork of the treatment of deformities in general—having been in fact the origin of the new method of treatment which has now extended itself to every variety of deformity of the body. After the deformities of the feet, I shall consider in their order those of the knee, hip, spine, neck, and upper extremity. I intend also to illustrate the several operations I discuss practically, when I am enabled to do so, at the termination of each lecture.

The most simple form of distortion is *talipes equinus* or *horse-foot*, so called from its anatomy corresponding to the natural anatomical formation of the foot of the horse. It consists in complete elevation of the heel, unaccompanied by lateral distortion; the concavity of the arch of the foot being increased; the toes *extended in position*, though occasionally *contracted in form*, in consequence of the extreme flexion to which they are subjected; and the metatarsal bones frequently diverging from each other (vide fig. 3), by which the anterior part of the foot acquires an appearance of increased width; which, indeed, it virtually possesses. The patient in walking rests entirely on the heads of the metatarsal bones; the os calcis is almost perpendicular, from the contraction of the gastrocnemius; the astragalus lies obliquely in the articulation, presenting its heads forwards and downwards, and frequently projecting, in consequence of the separation of its superior surface from the scaphoid bone, and the elongation of the ligament that lies between them. The cuneiform and the metatarsal bones change their position, so as to correspond with the direction of the foot, whilst the phalanges are extended, and appear set on at right angles to the metatarsal bones: from the pressure occasioned by the weight of the body, the ligaments on the dorsum of the foot are slightly stretched, whilst those in the sole become more or less contracted, according to the age of the patient, and the duration of the deformity.

As a general rule, the muscles, with the exception of the gastrocnemius, are in a state of extension on the anterior surface, and of contraction on the posterior, although not permanently so. This description, in its full extent, applies only to a perfect case of talipes equinus, such as may be seen in Fig. 1; but the same features of course exist more or less in every modification of this species of deformity; their degree depending on the severity as well as on the variety of the case, from the simple contraction at right angles, to the utmost possible elevation of the os calcis.

I have never met with pure talipes equinus *congenital*. The causes of the non-congenital deformity are numerous. The irritation of teething, worms, any derangement of the nervous system, wounds in the calf, rheumatism, scrofulous disease in the ankle-joint, or in the substance or tendon of the gastrocnemius. Not unfrequently, however, this deformity arises spontaneously, the patient experiencing no pain or inconvenience beyond the inability to bend the foot or ankle-joint in the act of walking, and retaining at the same time power over all the muscles.

Fig. 1.



Talipes equinus, the consequence of scrofulous abscesses of the leg: *a* is a projection formed by the head of the astragalus separated from the os scaphoides.

Fig. 2.



The cast of the foot represented in Fig. 1, after treatment, shewing the removal of the contraction of the toes by the restoration of the foot to its natural state.

When talipes equinus arises from *dentition*, it is often combined with contraction, and partial paralysis, of the upper corresponding extremity; occasionally, however, it is unaccompanied by any other deviation. Frequently in such cases there will be found paralysis of the anterior tibial muscle, so that the contraction would appear in these instances to arise from the balance of power being destroyed, and the gastrocnemius being thereby allowed to contract upon itself. Frequently we find perfect paralysis to have been connected with a fit, or great cerebral disturbance, which subsiding gradually, or more quickly, leaves the flexors of the foot paralysed. I have had opportunities of witnessing this contraction from its very origin: I was consulted by the parents of a child, 18 months old, that had contracted a limp which occasioned it frequently to fall; upon directing the child to be led across the room, I observed that in the act of progression the right heel was elevated the moment the left foot was carried forwards beyond the perpendicular line of the body, and that the toes diverged from each other when pressed upon by the weight of the trunk. On carefully examining the foot, I found partial loss of power in the anterior tibial muscle, and incipient contraction of the gastrocnemius, so that although I could flex the foot by using considerable force, yet upon withdrawing my hand, it re-contracted immediately. Upon inquiry I found that the child was suffering from the irritation of teething, and also from the small thread-worm; the gums were freely lanced, scammony and calomel administered periodically, and the child improved in health. Still, however, the deformity remained: a tin splint was applied behind the leg and foot, and coming at right angles under the latter; embrocations were used, and flannel bandages were applied to the entire limb; but even these means failed in restoring the natural condition of the muscles, and the tendency to contraction still remained. I then ordered one of Scarpa's shoes, which was worn for six months with beneficial effect. The child was then sent to the sea-side, and for a time appeared perfectly well; but the same tendency to contraction recurring, I proposed division of the tendo-Achilles, and the operation was done; since which time the foot has remained perfectly in position, and the child possesses free voluntary motion. This case is important, inasmuch as it would appear, on consideration of the circumstances attending it, that the contraction, although so *slight*, was *permanent;* as we find that the increased length given by the operation has allowed the anterior tibial to exercise its full function, and there has been no disposition to any return of the affection.

The irritation following a *puncture, or other wound*, sometimes sets up diseased action in the muscle of the calf, or in the nerves supplying that muscle, which resolves itself into gradual contraction of the gastrocnemius, although unattended with paralysis of the flexors of the foot, or even by any loss of power, at least so far as can be discovered. This does not occur at the time of the infliction of the wound, or during the subsequent healing process, but after the patient has to all appearance recovered from the effects of the injury; his attention being drawn to the circumstance by his inability to flex the foot completely; and the infirmity,

if unattended to, gradually increases until the os calcis is elevated to its extreme point; the *inherent* motion of the ankle-joint remaining unimpaired.

Fig. 3.



Talipes equinus from paralysis during childhood (patient æt. 15): illustrating the great increase of the arch of the foot and divergence of the metatarsal bones.

Fig. 4.



The foot represented in Fig. 3, after treatment: shewing the restoration of the arch of the foot by the removal of the contraction of the gastrocnemius simply.

Rheumatism occasions this deformity, as well as numerous others; in fact, there is not a joint in the body which escapes the influence of this disease. When talipes equinus arises from a rheumatic affection, it generally commences either during, or immediately after, the active stage of the disease; and appears to arise from the contracted position which is occasioned by the painful state of the whole of the textures belonging to the joint and surrounding it, and which causes the muscles to be kept in constant exertion to prevent the slightest motion; the extensors preponderating, gradually extend the foot, so that when the patient is allowed to walk, he finds his heel elevated from the ground, or else finds an inability to flex the foot. This is perhaps the most serious form that can be met with, inasmuch as the synovial membrane and ligaments of the joint become thickened, and offer an obstinate resistance to the restoration of the foot to its natural position after division of the tendon, and even the foot is brought into position, unless great perseverance be used, the motion of the joint will not be restored. We are thus led to suppose that there has been an adhesive thickening and alteration in the structure of the whole joint, and that the contraction exists not in the muscle, or its dependent nerves, but that it has arisen purely from the position adopted instinctively by the patient to relieve himself from pain during the attack. This position is generally one in which the more powerful muscles easily obtain an ascendancy over their weaker antagonists, and although the *instinctive shrinking* from pain is undoubtedly communicated to these muscles by the nerves which supply them, still the *actual contraction* must be produced by a constant effort of the will alone to keep the limb and joint motionless; and therefore it is evident that the deformity thus occasioned is perfectly unconnected with the nerves and their centres, and exists independently of them when the disease has subsided, and the tenderness of the joint has disappeared. After the restoration of the foot to its natural position, the patient acquires all the power of voluntary motion, and the cure thus becomes perfected. You will not, however, meet with any deformity which will give you more anxiety, or require greater care, than the last; because in the others which have been mentioned, the joint itself offers no resistance, and is not the original cause of the deformity, so that having divided the contracted muscle or muscles, the cause and effect being removed, you will find the foot readily resume its position. Not so with a *rheumatic* deformity.

The next cause I shall mention is that of *scrofulous disease or ulcers* about the calf, tendon, or joint, but more especially ulcers about the calf or tendon. I had a patient under my care who, at two years of age, was attacked with scrofulous inflammation of the leg and arm, which continued until the age of six, a period of four years; in the arm the joint became diseased, and the affection terminated in complete ankylosis of the elbow-joint at right angles. The patient, however, possesses a very useful limb, and is enabled to follow his avocations with comparative ease. In the leg the disease did not permanently affect the joint beyond the irritation consequent on its close vicinity, which irritation,

after the healing of the wound, subsided, leaving no trace behind it: the calf and tendon, however, were covered with cicatrices, which adhered both to the muscle above and to the tendon below, and which, being influenced by every action of the muscle and tendon, gradually (as cicatrization became perfected), and almost insensibly, drew up the heel until it reached its highest possible elevation—the foot forming a perfectly straight line with the leg without the slightest deviation on either side, the patient walking on the very centre of the heads of the metatarsal bones (vide fig. 1, in which this case is represented); and a more complete specimen of talipes equinus could not be met with. On examining the foot, it was found that by the use of great force the smallest possible amount of motion could be discovered, sufficient to lead to the hope rather than to the assurance that the joint itself was uninjured. I proposed the operation, at the same time stating my opinion that the future result might not be altogether favourable: the patient submitted. On passing the knife behind the tendon, which was done with some difficulty, I found that the tendon itself was completely imbedded in cicatrix, and that from the deeper seated fibres to the upper surface the whole formed one mass: on attempting to cut the tendon in the usual manner, not the slightest impression could be made, tendon and cicatrix together yielding like a piece of Indian-rubber; I was therefore compelled to cut into it by the smallest repeated cuts, and, after great difficulty, I separated the whole to the very cuticle (for the skin itself was in a state of adhesion). In three or four days extension by means of Stromeyer's foot-board was commenced, and gradually increased for six weeks, at the end of which time the foot was brought to a right angle with the leg (vide fig. 2, taken from the cast)—not, however, without much difficulty and attention, for although everything had been divided which admitted of division, yet the ends were still kept in contact by the remaining portion of the cicatrix, which was firmly attached to the deep fascia and muscles, and extended the whole length of the tendon. The patient has, however, no paralysis of the anterior tibial muscles, or extensors of the toes, and now possesses a limited degree of motion of the foot; there is no tendency to re-contraction, and the patient walks in a common boot without any support.

There is another and more serious form of disease arising from scrofulous affection of the joint itself, and which admits of no remedy after the subsidence of the diseased action, perfect anchylosis then resulting. But in this variety of the deformity the position of the foot may be restored by the careful application of support (that is, by means of splints) during the diseased action, or before the adhesions have assumed their permanent osseous condition; though in these cases, of course, permanent voluntary motion of the joint is out of the question, for in whatever position the restorative process becomes matured, in that position must the foot remain. This modified system of cure, however, can apply only to young subjects, as disease affecting the bones and joints of adults very seldom admits of cure, except by means of the amputating-knife.

The last cause of this deformity which I have to allude to is at present entirely hidden from our sight, and leaves us to speculation or theory. Our knowledge of the functions of the nervous system is limited, and this state of our ignorance disqualifies us from giving any satisfactory explanation as well of those deformities which arise without apparent interruption to the general health, as of those formidable and fatal affections, tetanus and hydrophobia. On none of these affections has physiology or pathology yet thrown any light, although both have been the peculiar study of many able members of our profession. We cannot, therefore, reasonably hope, whilst the cause of the more palpable and striking, and serious nervous disorders, still remain involved in mystery, that the less remarkable and the milder derangements which sympathetically occasion paralytic deformities should be easily traced and comprehended. In the cases I now allude to, it will be found, on inquiry being made into the cause, that the parents or friends of the patient will reply, "that the child was put to bed in perfect health and slept well, but that upon taking it up in the morning it was found to have lost the use of one or both extremities; or that the leg was observed to be motionless; upon recovery from which state a weakness remained in the foot which terminated in the deformity." A case of this kind occurred in my practice three years ago, in which the heel was elevated about three inches from the ground, and in which perfect paralysis existed, and still exists, in the anterior tibial muscle, although the patient, during childhood, was not remembered to have suffered any illness. That some diseased action had gone on at one time unobserved cannot be doubted, nor can there be a question that this diseased action was connected with the brain or spinal chord; yet, strange to say, the mischief in this case proceeded to the serious extent mentioned above, and resulted in permanent paralysis without having affected the health of the child, who would unquestionably, by crying, or otherwise, have at once announced any pain or inconvenience that it might have felt. This is a circumstance occasioning much surprise and curiosity. We have

several cases of this kind on the books of the Charity, which all leave the occurrence of these sudden attacks of the nervous system a fact yet to be accounted for. There is another species of spontaneous contraction which I have met with in the adult, without, however, the addition of paralysis. The patient will tell you that he or she has had no illness, but that they found their heel or heels, for it sometimes occurs in both feet, gradually becoming elevated from the ground, causing severe pain in walking, and at length preventing them from pursuing their daily avocations. I saw a case of this kind, a short time since, in St. Bartholomew's Hospital, through the kindness of Mr. Lawrence, in which both feet were affected, the heels being drawn up to their full extent, or nearly so. The patient stated that the affection had come on gradually, and that he could assign no cause; there was no paralysis of the muscles in front of the leg, and after the feet were brought into position he could flex them and extend them at will. We have had two or three cases of the kind among the out-patients in which no trace of any cause could be imagined or discovered. The patients had been subjected to no illness, had felt no pain, had not been deprived in any way of the power of following their usual employments; there was no paralysis, nor, so far as could be discovered, any loss of power; and yet, by insensible degrees, the os calcis was drawn up—the first notice the patient received being a difficulty in walking, and an inability to bend his foot, terminating in complete elevation of the heel. What can be the morbid condition which induces such a malady? The probability is that the origin of it lies in the spinal chord, which exercises a sort of perpetual irritation throughout the whole muscular system. This is not a perpetually active irritation, but rather a universal pervading stimulus; the former would inevitably result in spasmodic contraction of the muscles; the latter influence only keeps them in readiness and health to obey the dictates of the will. This general influence of the spinal chord, however, may occasionally be, and in these instances is, limited to one muscle; for in the cases alluded to the foot was neither inverted nor everted, but held in a straight extended position, and after the division of the tendon, the restoration of the foot to its natural position easily followed, without its having exhibited any tendency to deviation on either side during the time of treatment.

In all cases, from whatever cause they originate, more or less atrophy of the entire limb will be found, according to the length of time the deformity has existed; and even in incipient cases, in which, before the contraction is confirmed, and previous to paralysis of the flexor or flexors, you may, by appropriate remedial measures, have removed the exciting cause; yet even in these cases I have always found the affected limb smaller than natural, as well as smaller than its fellow; for the perfect limb may be said to be larger than natural in consequence of being compelled to do double duty, and the muscles thereby becoming more strongly developed. The weakening influence of the contraction in the affected foot at an early period becomes permanent; the patient possessing one strong and useful limb, avoids, as much as possible, the use of the infirm member.

In those cases where paralysis of one or more muscles exists, of course there can be no chance of re-development of the member; the patient must then rest satisfied with the free motion of the joint and artificial support, as at present we are aware of no cure for paralysis; whereas in those cases where contraction is found without co-existing paralysis, whatever the age of the patient, we find that after the removal of the contraction, and of all impediments to the motions of the joints, the limb will recover to a great extent its natural size by a re-development of the muscles from exercise. I have observed this effect to occur in two cases, each at the age of 38 years. In both the contraction had taken place in infancy, and every mechanical and other means had been resorted to without success. In one the heel was elevated three inches above the ground, in the other not more than half an inch; the anterior tibial muscle in both retained its power of motion after the operation and flexion of the foot, and both patients were enabled to use the foot with perfect ease and comfort without assistance from artificial support; the limbs, too, increased in size and firmness, and the pain and lameness were entirely removed.

The cases I have described hitherto have been examples of perfect talipes equinus, in which the foot does not deviate to either side; but it frequently happens that in consequence of the loss of power, or paralysis of the flexors of the foot, a weakness of the lateral ligaments ensues, from constant stretching occasioned by the weight of the body in walking; and great pain is frequently experienced from treading on any uneven surface, such as a pebble, or other inequality, so much so that I have known a patient, after having made one unfortunate step of this kind, unable to walk for the remainder of the day—the contact of the foot with the ground occasioning a sensation as if the ankle had been dislocated. This stretching gradually increases the length of the passive attachments of the joint, until the patient walks on the under and outer surface of the fifth metatarsal bone. The variety of talipes equinus thus produced is

called *talipes equinus varus;* and the foot occasionally becomes so completely inverted that the patient walks on the dorsum of the metatarsus. Of course the ligaments on the

Fig. 5.



Cast of a patient, 18 years of age, in whom the foot at first presented the appearance of talipes equinus, but, from the cause mentioned, the sole is directed upwards, the dorsum downwards.

dorsum are also greatly stretched; but the deformity, although so frightful in appearance, is generally very manageable; though the under margin of the foot becomes closely approximated to the internal malleolus, yet will it generally be brought to yield, and to assume its natural position, by the division of the tendo-Achilles alone. It is not, as you will more clearly perceive hereafter, the amount of deformity, so much as its cause and nature, which occasion difficulty in the treatment.

A contraction of the gastrocnemius, if it is impossible to flex the foot beyond a right angle, I should consider as incomplete talipes equinus, and you will find this species of the deformity vary from that point to the extreme form which I have before described in complete talipes equinus; even this modification, namely, a contraction of the gastrocnemius, will occasion the patient great inconvenience and pain, as in every step the weight of the body is thrown, when the other is carried forward, on the extremity of the metatarsal bones, and frequently the foot will swerve to either side, if on any but a perfectly flat surface. The lateral ligaments in these instances are elongated, and the foot, if suspended above the ground, will appear as if its attachments were separated, when the will is not in active exercise; that is, when the muscles are in a state of repose. In almost all cases, and in every case without exception where paralysis exists, the natural temperature of the limb is reduced, and it becomes unable to resist the effect of changes of temperature. The limb appears innervated, which arises, I have no doubt, in a great measure from its passive condition, as well as from a weakened state of the nerves themselves, both of the skin and of the moving powers. From my observation I believe that the relative positions and size of the astragalus and the joint retain their normal condition; although I am aware that a different opinion has been entertained, for in no case that has yet appeared have we failed to restore the position of the foot.

In adult cases that have arisen during infancy, in which the patient has been compelled to use the limb daily in obtaining his livelihood, there is in all probability a thickening of the synovial membrane and ligaments, and diminished size and capacity from a continuance in one position; the synovial secretion also must be less abundantly generated, not having been required to lubricate the joint, inasmuch as there has been no motion; hence the grating often felt after the foot has been placed in its normal position. Both of these circumstances would act as impediments to the return of the astragalus back into the articular cavity, but this difficulty does not constitute an alteration in the relative size of the astragalus and its articular cavity. The cavity of articulation is so beautifully adapted to its use, that in the healthy and natural state but little room is left beyond that which is actually necessary for the free motion of the joint: were it not so, dislocation would be a most frequent occurrence, whereas this accident is impossible without fracture of the fibula.

Treatment.—In every case where the contraction evidently and positively exists, I should adopt and recommend section of the tendo-Achilles; an operation so simple, so comparatively devoid of pain, and so delicate, that it can scarcely be called one; no risk is incurred beyond that appertaining to the slightest wound, and so morally and practically certain are its effects, that I have no chances of injury, no contingent evils, to lay before you for investigation. Here we have divided some hundreds of tendo-Achilles, in every variety of deformity, and as yet we have experienced no unfavourable result; therefore as this tendon is the great cause of resistance, whenever you find it contracted, I would advise division.* The operation is thus performed: let the patient be placed horizontally on his face: let an assistant grasp the leg by placing one hand under it, and the other on the anterior part of the sole of the foot, holding it firmly; by these means he will obtain entire control over it: let him keep the tendon upon the stretch by endeavouring to flex the foot: you then feel the outline of the tendon, introduce a straight narrow sharp pointed knife through the integument, and beneath the

* This operation of dividing the tendon has been long practised by veterinary surgeons.

tendon, having its flat side in contact with the under surface of the tendon. After you have passed it from one side to the other (without, however, puncturing the skin on the opposite side,) turn the sharp edge of the knife towards the tendon, and by gently depressing and raising the handle alternately, you will divide the tendon transversely from the internal to the external surface, taking care not to lacerate or penetrate the skin beyond the point of puncture. Use no violence or sudden effort; let your incision be made with firmness, but quietly and with care; for in my opinion the professional man who values his own conscience and the welfare of his patient will never, for the sake of a few seconds of time, or for the vanity of making "an impression," neglect the ordinary precautions which experience teaches us are necessary even in the slightest operation which the hand of the surgeon is called on to perform. After the division (which is merely followed by two or three drops of blood,) has been effected, you will place a piece of lint over the puncture, and keep it down by adhesive plaister; then apply carefully, and without any undue pressure, a bandage of flannel from the toes to the calf, supporting the foot by a padded straight splint. Let the patient be placed on a bed or couch, either in a horizontal or sitting posture, with the leg supported on a slightly raised pillow, and the knees flexed, taking care that the temperature of the limb is kept up by sufficient covering; for I need not inform you that if the temperature is below the natural standard, the restorative process cannot go on. I have known a case where, from the fear of inflammation, cold lotions were applied after the division of the tendon; the consequence was inflammation and suppuration. You must be guided by the sense of touch as to what quantity of covering is required, and if one blanket is not sufficient let the limb be enveloped in two or more. Do not interfere with the diet of your patient, or in any way control him except to require "rest." At the end of three or four days you will find by these means that the two divided ends have united, and that the orifice of the puncture is healed; you will then carefully bandage the limb, and place it (in the same position in which it has remained both before and since the operation,) in the instrument for the extension of the foot*. If the contraction is slight, the patient young, and there is great mobility in the joint, you must be slow and cautious; for by hurrying it, the new uniting medium becomes too rapidly elongated, and great and continued weakness is the result. In the case alluded to in my former lecture the patient not only experienced great weakness, but a much worse deformity was produced than had before existed, inasmuch as the heel was at first tightly held by the contracted muscle, and the little patient could walk with firmness, whereas afterwards, from the uniting medium having been too much elongated, and from paralysis of the anterior tibial, the foot became as it were comparatively unattached, and yielded to such an extent that she now walks almost on the internal malleolus. The attempt, therefore, in weakly subjects, to place the foot in position immediately or shortly after the operation, by hastily proceeding to extension, as has been done by some, is a mode of treatment unscientific, and entirely destructive of the principles upon which the operation is founded. For its objects are two-fold; first, to overcome the resistance, and secondly, to preserve entire the integrity of the divided muscle, and thus to render it useful after the foot is restored to its position. You will, therefore, proceed with caution. In adult cases of long standing, however, you will not run this risk of the great elongation, as there will be found other resistance besides that of the contracted muscle alone. Here you will also have to contend against more or less pain, and to proceed very slowly, not from the fear of too rapid a progress, but from the resistance in the joint, and the tenderness experienced by the patient, which is occasionally most acute, on every increase of the flexion; and in cases arising from rheumatism, from scrofulous inflammation and from cicatrix, the progress of the extension will require all the patience and perseverance you can command. The pain is occasioned by the return of the astragalus into the articular cavity, and is complained of principally at the front of the joint.

You will occasionally find, as the foot becomes flexed, that it will deviate either to one or the other side; most frequently it will *evert*, forming a sort of talipes valgus; and upon examining the tendons, the peroneii will be found contracted. If, however, it should *invert*, the posterior tibial will be the most probable cause. In either case division of the tendon must be resorted to, or the patient will be thrown either on the internal or external side of the foot, according to the state of the respective muscles. You will not be enabled at all times to discover this tendency previous to the division of the tendo-Achilles. Occasionally, however, you will find these tendons, viz. of the peroneii and the posterior tibial, tense in a simple talipes equinus, upon a forcible attempt to flex the foot. If this tension continues after keeping up the forced extension for some minutes, you may be nearly sure that the tendon is contracted; and I would advise division at the same time that the

* Either Stromeyer's foot-board, or Scarpa's shoe.

Achilles tendon is divided. It is seldom requisite to divide either the plantar fascia or the flexors of the toes, although both appear sufficiently tense and contracted previous to any operation. You will find that the arch of the foot will come down when the foot is flexed, and that the toes will assume their natural position—at least, as a general rule. Should they not do so, the division of either, or of both of the tendons, may be afterwards effected; the method of which operation I shall describe in detail, when I come to consider those deformities in which they most frequently require division. After the foot is flexed you may allow the patient to use it; and that he may do so with comfort and safety, we must adopt the same means used by Delpech, viz. a boot and support. The foot will thus be maintained in position, at the same time that the patient is enabled to take exercise. The support will require a stop-joint at the ankle, to prevent extension beyond a right angle until all trace of contraction and tendency to any recurrence of it shall have disappeared.

CASE OF

HÆMORRHAGE OF THE LIVER.

By James Abercrombie, M.D.
Fellow of the Royal Medical and Chirurgical Society, &c.

COMMUNICATED BY
James Copland, M.D., F.R.S., &c.

(*For the Medical Gazette.*)

Mrs. M'Kenzie, æt. 35, a lady of spare habit, of sallow complexion, and who had spent several years in India, suffered much during the last two months of pregnancy from dyspepsia. My attendance was repeatedly requested during that period, and relief was usually afforded her by mild aperients of magnesia, rhubarb, and ginger, or Murray's fluid magnesia, or the use of the liquor potassæ in milk or in some bitter infusion as a vehicle.

On the 28th of September, 1841, at 2 P.M., I received a hurried call, when I found her complaining of pain in the epigastric region, accompanied with a sense of distension, belching of flatus, and an inclination to vomit: she had no attending fever, nor was the pain constant, but returning at intervals, and evidently relieved by pressure. Having had frequent attacks of gastrodynia on former occasions, she, of her own accord, had immediate recourse to pressure for relief; and placing a silk handkerchief round her body she desired one of her servants to pull it as tight as she possibly could. The wish was complied with, but to an extent that made me fear some injury under existing circumstances. I therefore begged it might be removed. I then prescribed for her a draught composed of Calcined Magnesia, Liquor Opii Sedativus, Spt. Ether. Sulph., and Aq. Cinnamomi, to be taken immediately, and ordered hot fomentations to the epigastrium. By these means the pain gradually abated, and, on calling to see her in the evening, she was quite relieved. From some particular sensation, however, she observed that she was apprehensive her labour was approaching. About ten o'clock she fell asleep, and rested composedly until two, when she awoke, as she had anticipated, with labour pains; and shortly after the membranes gave way. About half-past four I was sent for. I found the breech presenting, and already resting on the perineum. In twenty minutes the child was born (it was in a state of asphyxia, but by the use of the ordinary means was soon recovered). The placenta followed in about a quarter of an hour, and the uterus contracted readily. I remained with my patient fully half an hour, and finding everything going on well, I retired into an adjoining room. I returned in about twenty minutes, when, to my surprise, I found her with a fluttering pulse, much oppressed, with anxious breathing, and complaining of pain in the right hypochondrium and right side of the heart. Without considering the pain to which she directed my attention, I concluded that she was flooding. On making the necessary examination, however, I found the uterus well contracted, and the discharge outwardly very moderate. She soon became quite cold and clammy; complained of noise in her ears and dimness of sight, and expresed herself as dying. I sprinkled cold water quickly upon her face, applied stimulants to the nostrils, and administered immediately 35 drops of laudanum with a little brandy. Conceiving at the same time that she might be of that peculiar constitution that could not bear with impunity the loss of the smallest quantity of blood, and seeing the necessity, whatever might be the cause of the collapse, to prevent any further drain from the

system, I ordered cold applications to the vulva and lower part of the abdomen, and continued the use of them until the discharge was almost completely suppressed. I continued giving her brandy and water from time to time, and as she still remained very cold, I ordered stone bottles of warm water to be placed all round her body, and as near as could be done with safety. Notwithstanding these means she did not rally in the least, and apprehensive that she was sinking, I requested a consultation; when Dr. Flick was called in. He came immediately, and after examining her minutely, gave it also as his opinion that there must be some cause, independent of parturition, to account for the serious symptoms which had presented themselves. From the suddenness of the collapse we were both disposed to trace it to a rupture of some large blood-vessel, dependent perhaps upon previous disease; this, however, was a mere matter of conjecture. Our patient now commenced vomiting, rejecting almost every thing which she took. Dr. Flick approved of a continuance of the stimulant plan of treatment, and the free use of wine and brandy; and the following mixture was prescribed:—

℞ Mist. Camphor. ℥vj.; Liquor Opii Sedativ. gtts. xviij.; Spt. Ammon. Arom. ℥iij.; M. ft. Mist. cujus capiat cochlear. mag. duo 2nda. quâque horâ.

This treatment was continued during the whole day. Brandy and wine were given at short intervals, pure, or mixed with water or sago or arrow-root, and strong beef-tea. Much, however, was rejected, the stomach continuing irritable.

Seven o'clock P.M.—No improvement. Is still under symptoms of great exhaustion, is cold and clammy, and vomits frequently. Her only complaint now is of pain in the neck a little to the right of the spine, and which is increased by taking a deep inspiration; and she frequently requests the part to be rubbed for relief. She also still feels pain on pressure being made in the hepatic region, a little below and to the left of the scrobiculus cordis, but it is not acute.

At this period Mr. Laing was also called in consultation. He made every necessary inquiry, but after satisfying himself fully, he candidly acknowledged that, like Dr. Flick and myself, he was at a loss to form a correct opinion of the case. He thought it, however, probable, judging from the state in which he found her, that there might have been some marked inflammation, which was passing into gangrene. With Mr. L.'s view of the case, and at the same time to allay the irritability of the stomach, it was proposed to vesicate the abdomen by the application of the Tr. Lyttæ Acetosa; and the following powders were prescribed:—

℞ Hydr. Submur. gr. x.; Pulv. Opii, gr. j.; Sacch. Alb. gr. iv.; M. ft. pulv. tales iij; quorum capiat unum statim.

In other respects we decided upon continuing the same treatment, lessening only the quantity of stimulus.

Nine o'clock P.M.—Somewhat improved. The stomach is less irritable, and has retained most of the nourishment (and wine, which she has taken since last visit). Simple diluents it having been observed agreeing better with her than stimulants, and remaining on her stomach more readily, it was now decided upon to discontinue the latter altogether, unless urgently indicated by a change of symptoms for the worse.

Another powder to be given at a quarter past ten.

Two A.M.—Had a little sleep after taking the last powder. Has had once a slight return of vomiting, but no stimulants were had recourse to.

℞ Liquor. Potass. gtts. xx.; Liquor. Opii Sedativ. gtts. v.; Syrup. Simp. ℥j.; Aq. Menth. Pip. ℥ij. M. ft. haustus statim sumendus.

September 30th, 8 A.M.—Continues improving: has had no return of vomiting; the pulse, though still quick, has become firmer, and she has now a comfortable warmth all over her body.

No medicine prescribed, but ordered to take beef-tea, sago, &c. as nourishment, and to use rue and barley water, or thin arrow-root, for common drink.

One P.M.—Up to within a quarter of an hour ago we had reason to think most favourably of our patient. (She had taken a good deal of nourishment, the natural warmth had still further returned, and she had considerably regained her strength). Suddenly, how-

ever, she was attacked with shivering, followed almost immediately by vomiting, and all the symptoms of collapse, as on the preceding day. The stimulating plan was immediately had recourse to again, substituting brandy almost entirely for wine (but which seemed to have no better effect in settling the stomach). The following mixture was prescribed:—

℞ Ammon. Carbon. ʒss.; Spt. Ammon. Arom. 3ij.; Syrup Cort. Aurant. ʒj.; T. Opii, gtts. xx.; Aq. Cinnamom. ʒiij. M. ft. Mist. cujus capiat cochlear. mag. unum omni semihora.

Six P.M.—The vomiting continues severe, and she has rejected almost every thing since last visit. She is cold, and bathed with a clammy sweat; the pulse is very frequent and feeble, and she has occasional singultus. The uterus to outward feel is apparently of the natural size, and the lochial discharge scanty.

Cont. Mist.

Eleven P.M.—The stomach continues irritable, the patient retaining what she takes only a few minutes. Her strength is rapidly declining.

Cont. Mist.

Two A.M. — Exceedingly restless, turning about frequently from side to side, and talking incoherently. Pulse scarcely perceptible. From this time she gradually sunk, and expired without a struggle a little before eight o'clock.

Appearances on a post-mortem examination of the body eight hours after death, on the 1st of October; and which took place in the presence of Dr. Davidson, of the Bengal Medical Service, Mr. Laing, Dr. Fleck, and Mr. Brown, medical practitioners.

The abdomen outwardly was soft and of natural appearance, and the uterus was felt through the parietes, of the ordinary size on the third day after delivery.

On laying open that cavity, the caput cœcum, and a small portion of the ascending colon, were observed to be of a dark colour, nearly resembling gangrene, but evidently dependent on venous congestion. On the liver a large sac presented itself, occupying the superior and anterior surfaces, which burst on an attempt being made to remove the organ, and discharged a very considerable quantity of blood, I should think about two pounds, both in the fluid and coagulated states: two small lacerated openings, about an inch apart, were discovered in its substance, through which the blood had escaped from a branch of the vena portæ, and the sac proved to be the peritoneal covering, which had been detached by the blood effused. The organ itself was throughout diseased, of a mottled appearance when cut into, and unusually soft, breaking down under the finger by the slightest pressure: the only part to be considered healthy was the margin. The uterus was in a perfectly sound state, as were all the other viscera both of the pelvis and abdomen.

Observations.—The causa proxima mortis in this case was the hæmorrhage from the liver, but when that took place must be a matter of conjecture. It might have happened the day previous to her confinement, when she was attacked in the manner described, and had recourse to tight bandaging for relief; in which case the effusion of blood to any extent was probably prevented by the pressure of the gravid uterus, until such time as it was emptied of its contents, and had contracted. Or—and this I confess I think more probable—it might have occurred during labour, and the effusion have been going on gradually until about an hour after the process was completed, when it began sensibly to affect her strength. The peritoneum having remained entire after the rupture took place, will readily account for the length of time the patient lived after so serious an occurrence.

This case is of great interest, and, so far as I am aware, there are only two or three on record which at all resemble it. One is related by Andral, and quoted by Abercrombie in his work on Diseases of the Abdominal Viscera; another is recorded by Sir Gilbert Blane (*Transact. of a Society for the Improvement of Med. Knowledge*, vol. ii. p. 18); and in this case the hæmorrhage appears to have been consecutive on changes in the liver, similar to those observed in the case just related. It is remarked by my friend Dr. Copland, when treating of Hæmorrhage of Liver (*Dict. of Pract. Med.* vol. ii. p. 730), "that when the blood is effused into some part of the substance of the liver, producing what

French pathologists have termed apoplexy of the liver, the extravasation has been consequent, either upon passive congestion of the organ, owing to impeded circulation through the heart, aorta, or lungs; or upon deficient tone of the capillaries of the liver, or softening of the part in the seat of the hæmorrhage." I perfectly agree with what Dr. Copland subsequently adds:— "Hæmorrhage from the liver is most frequently caused by external injury and rupture of the organ. When the liver is congested, and at the same time softened—changes occasionally produced in humid and miasmatous situations, either primarily or in connection with adynamic remittent or intermittent fevers—comparatively slight external injuries have ruptured this organ, and caused fatal hæmorrhage into the abdomen." The case now related would appear fully to illustrate the justice of this statement.

Cape Town, Cape of Good Hope,
May 1843.

ON THE

PATHOLOGY AND TREATMENT OF OVARIAN DISEASES;

WITH CASES.

By Dr. Samuel J. Jeaffreson,
Physician to the Chelsea, Brompton, and Belgrave Dispensary, &c.

[Continued from p. 650.]

The prognosis to be given in cases of ovarian disease may be considered in two points of view: first, as respects the chance of permanent cure; and, secondly, as to the probable duration of life and degree of suffering to which the malady is likely to expose the patient. It is somewhat premature, in this place, to speak of the probabilities of permanent cure before the different methods of treatment have been examined into, and the prospects which they hold out have been discussed. Setting aside the removal of the diseased mass, an operation lately revived, it must, however, be confessed, that no plan of treatment, with which I at least am acquainted, holds out any certain hope of effecting the perfect eradication of the disease. It occasionally, however, happens, that an effectual and permanent cure is due to judicious medical treatment, to natural and spontaneous processes, or to accidental causes. Of the spontaneous form of cure, one instance has been already detailed in Case V. Cases of this kind, however, often require great assistance, and judicious management on the part of the medical attendant, to conduct them through so perilous a crisis to a favourable issue. Many cases somewhat similar to the one which I have related are on record, in which the walls of the cyst have formed attachments to the bowels, or some other natural outlet, and ulceration, with escape of the fluid or grumous contents of the tumor, and permanent cure, have ensued. In some few instances a similar mode of cure, permanent or temporary, has been effected by adhesion of the cyst to, and ulceration through, the abdominal parietes. Dr. Ramsbotham states that such openings generally occur at the umbilicus, and relates a very interesting case which occurred in the practice of his father, who, it appears, had been for some time attending this lady for ovarian enlargement. The age of the patient was 40, and Dr. Ramsbotham's father was suddenly summoned to her assistance, in consequence, as it was said, of the body having ruptured.—He found the floor of the apartment deluged with aqueous fluid, that had issued from an ulcerated orifice at the umbilicus. The patient was faint, exhausted, and in imminent danger. A bandage was applied, and cordials were administered. She rallied, and lived afterwards for eight years.

Another most interesting case is related by Dr. Seymour as having occurred to the celebrated Dr. Mead, which should make us cautious in pronouncing a hopeless opinion of similar cases. The patient consulted Dr. Mead for an enormous ovarian tumor of the fluid character. He pronounced her case as hopeless, and considered her too much reduced even to bear the temporary relief of paracentesis. A few days afterwards, however, the tumor ruptured through the abdominal walls near the umbilicus. The same utterly hopeless opinion was still adhered to by the Doctor, in which, however, he was again mistaken, for the patient rallied and recovered.

Independently of these, if they may be so called, cures of nature, it has occasionally happened that paracentesis, which has been resorted to for temporary relief only, has been followed by

permanent cure; or that the opening made by the trochar has remained as a permanent fistulous opening, through which the contents of the cyst have drained off, and the disease has been eventually overcome.

Amongst the accidents which have given rise to the permanent cure of ovarian disease are blows on the abdomen, great fright, muscular exertion, &c. The cyst has thus been ruptured, and its contents have been allowed to escape, sometimes probably into the peritoneum, where they have been absorbed; at others into the bowels, bladder, uterus, &c. at points probably where adhesions had been long established between these viscera and the cyst, and in which the natural cure by the process of ulceration had been commenced or nearly effected at the period of the accident. I quite agree with Dr. Ramsbotham, in his suspicion that in the cases cited by Blundell and Abernethy the rupture was probably into the bladder or ureters; for it is difficult to suppose that the escape of the contents of the tumor into the abdominal cavity could be followed by immediate absorption, and an unceasing flow of the contents through the kidneys, ureters, and bladder, until its entire removal; besides which, the escape of foreign matters within the peritoneal cavity is almost universally attended by symptoms of a most formidable character. I remember one case at least on record, in which rupture of the cyst into the abdominal cavity was followed not by absorption and recovery, but by the death of the patient. In all these cases it must be remembered that the cyst remains within the abdomen, although its contents have been evacuated: the cure, therefore, cannot be considered as entirely perfect; but neither in the case above related, as occurring within my own practice, nor in other instances, have I been able to discover that there has been any return of the effusion; nor have I met with any accounts of the morbid appearances presented in such instances, where death has occurred many years after this form of cure. It must, therefore, be presumed, that the cyst becomes puckered up, and that its internal surface undergoes some changes, from inflammation or other causes, which render it no longer capable of secreting a similar fluid.

So much, then, for these forms of cure; the contemplation of which, even as circumstances of comparatively rare occurrence, must afford some hope and consolation to the sufferer. Such results can, however, of course be predicted as possible or probable in those cases only in which the contents of the cyst are entirely fluid, or being in part solid, are found to be gradually softening, and becoming fluid If, in addition to these circumstances, and setting aside the surgical treatment of the disease, we take into account the fact that some cases of ovarian tumor, both of the fluid and mixed form, have yielded to general plans of treatment which have effected a cure by inducing their absorption; and that we possess considerable power in promoting that process of softening of the solid portions which precedes the cure by ulceration, of which fact I hope to be able to adduce additional evidence to that already placed before the profession by Dr. Seymour; taking, I say, all these circumstances into account, the prognosis of ovarian disease, as respects ultimate cure, will not be found so entirely and utterly hopeless as it has been represented by some authors.

The second subject for prognostication is, "the probable duration of life. and the degree of suffering to which the malady is likely to expose the patient."

No one who has seen much of the disease can fail to be struck with the great variety which obtains, whether in solid or fluid forms of the tumor, in the rapidity of their growth and the degree of distress to which they give rise. As respects the mixed form of ovarian tumors (partly solid, partly fluid), to go no further than the six cases above described, we find one which has existed twenty-two years without destroying the patient, and upon the ultimate result of which it is in vain to speculate, the patient's distress and inconvenience being less, and her general health better, than when I was first consulted, now six years ago. Another case, much larger in bulk, has now been in existence twenty-five years. To set against these, two cases are related which terminated fatally within about a twelvemonth of their origin, or at least their first manifestation by symptoms. Were it requisite, more chronic as well as more acute examples might be adduced from the records of practical writers on the subject. One instance is related in

Dr. Copland's Dictionary, in which Frank states the disease to have commenced at the age of 13, and yet the patient attained the age of 88 years. As regards the fluid variety of tumor, whether unilocular or multilocular, perhaps almost equal variety obtains in respect of their duration; for whilst many instances are on record in which the first paracentesis has been speedily followed by death, or in which this has occurred without the operation having been ventured upon, others are found in which the patient has lived many years, and attained a considerable age. Not to weary the reader by a too tedious reference to cases already well known, this one example may be quoted, in which Mr. Martineau, of Norwich, tapped a woman of the name of Sarah Tippus, 80 times in the space of 25 years; the reader will also bear in mind Case III. in which the operation has been now performed thrice in 10 years, and yet the patient's general health is not impaired beyond the effects induced by the weight and mechanical inconvenience of the disease.

Independently, however, of the cures of ovarian disease which occasionally take place spontaneously, or under the influence of medical or surgical treatment, and independently also of the slow progress which the growth makes in some instances, it is frequently observed that ovarian tumors of either character, when undergoing a tolerably rapid course of enlargement, will sometimes spontaneously, or as the effect of well-directed medical treatment, experience a sudden arrest of growth, and remain for years, or even for the whole of life, stationary; and the source of no further inconvenience than what is due to their bulk.

Such circumstance I am inclined to attribute to the partial disorganization of the solid portions of the tumor, and to such changes in the character of the cysts containing fluid secretions, whether inflammatory or not, as incapacitates them from further secretion. I cannot pretend to offer any evidence in support of this opinion sufficiently strong to render it certain; the reasons, however, which have led me to it are these: that such sudden arrest of growth has been frequently observed in connection with those causes, natural or artificial, which are observed to be most efficient in promoting the process of softening of the harder masses: such are inflammation, however set up; and the use of certain medicines, and other methods of general treatment, presently to be noticed.

It may be well, however, to state, that the impression which prevails with the members of the profession, that ovarian disease is not generally attended by risk to life, is decidedly incorrect. The ovaries, it is true, are not vital organs, and may therefore undergo an amount of disease which would be speedily destructive if situated in other parts. Taking into consideration, however, the occasional malignant nature of the affection; the frequently enormous bulk of the diseased growth, with its consequent exhausting effects, and above all the numerous morbid conditions of other parts to which it may mechanically give rise; it must be but too evident that ovarian disease is a formidable malady, and one of but too certain a tendency.

It is to be regretted that neither of the points proposed for consideration in the prognosis of ovarian disease receive much light and assistance by reference to statistical tables; for whilst the statistics of hospital practice hitherto presented to the public afford too few examples of ovarian disease to serve this purpose, the returns of mortality published by our talented and industrious Mr. Farr, of the General Register Office, are compiled from sources not sufficiently accurate as respects this one (and that too not very frequent) cause of death, to be relied upon. That such is the case may be readily ascertained by referring to the Annual Reports, in which no small proportion of the fatal cases of ovarian disease are stated to have occurred at ages in which their very existence has been denied by the most experienced practitioners; whilst on the other hand, it is more than probable that many real instances of fatal ovarian disease have been included under other heads—as dropsy, ascites, tumors, &c.

Before entering upon the subject of the treatment of ovarian disease, I shall endeavour to draw some deductions from the facts above narrated, or contained in the works of practical authors on this subject.

1st.—*Inflammation of the ovaries.*—These organs are no doubt subject to inflammation in the same way that

other parts are. Inflammation of the ovaries is probably in many instances the primary process by which those changes are effected in their structure which are afterwards recognized as ovarian tumors. Inflammation of the ovaries, in persons of a strumous habit, is not unfrequently, in my own opinion, a cause of ovarian tumor, in which case the results of the continued inflammatory action may be very like that which happens in scrofulous inflammation of the absorbent glands, namely, first intense hardening, then softening, ill-conditioned suppuration, and production of a flaky curdy substance. That ovarian tumors once formed, from whatever source, may become the seat of inflammation, is not, I think, a matter of doubt. Such process it is, in my opinion, which often gives rise to those constitutional symptoms of great danger, which have led some to suppose the disease to be of a truly malignant character, when it in reality was not so. Such process, too, has occasionally been the means of cure, by inducing general softening and disorganization of the tumor, the contents of which have escaped by adhesion of its cyst to the bowels, &c. and by ulceration.

2d. *Fluid tumor — unilocular.* — This may occur in three different ways; 1st, by effusion between the fibrous covering of the ovary and its peritoneal envelope; 2d, by one of the vesiculæ of Graaf being alone the seat of disease, in which case, as the fluid goes on to be secreted, the pressure thus induced causes partial or entire absorption and obliteration of the remaining structure of the ovary. In both these instances the fluid is usually clear and tolerably uniform in its appearance; it may towards the last become more ropy, and slightly, perhaps extremely, opaque; 3d, I believe that a tumor not originally unilocular, nor even entirely fluid, may at some further period become, so to speak, unilocular and fluid, so that it may be entirely emptied, whether discharging itself by an artificial or spontaneous opening; such process I believe to be effected by inflammation, or at least a process analogous to it, in which the harder parts of the tumor are softened, and the intervening septa which separated its various compartments are partially or entirely absorbed and destroyed.

3d. *Fluid tumor—multilocular.*—I do not ever remember to have examined an *entirely* fluid multilocular tumor, Such, however, do occur. In all the cases I have examined larger or smaller portions of the tumor have presented various degrees of solidity, whilst others were fluid. If multilocular but *entirely* fluid tumor were a primary form of ovarian disease, I think it would be more commonly met with in post-mortem examinations; whereas in the process of softening to which I have before alluded, it will rarely be witnessed; since the active powers which are at work to convert the solid mass into fluid are equally active in destroying the barriers by which the several compartments are divided.

4th. *Mixed tumors, in which the different parts are in various degrees of solidity and fluidity.*—These tumors are invariably divided into different compartments, corresponding probably with the Graafian vesicles or corpora lutea, in which the disease originally commenced. That this is by far the most frequent form of the affection is agreed by Dr. Seymour, and most other authorities. It is more than probable that this form of disease obtains in many instances from the very first, some vesicles containing fluid, which is increased by continued secretion, without outlet; other vesicles, or probably corpora lutea, being occupied by solid deposition, which also continues to augment.

5th. The serous or fibrous investment of the ovaries, independently of the hypertrophy they undergo in the process of growth of the ovarian tumors themselves, may become the seat of various forms of morbid deposit. Such forms of disease can rarely perhaps be diagnosticated during life as separate affections; nor is this probably a matter of much practical importance.

6th. *Malignant tumors, properly so called.*—Pure carcinoma, melanosis, or fungus hæmatodes, are certainly rare affections of the ovaries. I have never myself witnessed them, but should be unwilling from this reason to deny a fact resting on the authority of more experienced practitioners. Besides this, there appears no reason why these parts should be exempt from such forms of disease. Practically speaking, it is of importance to know that the diagnosis between malignant and other

tumors of the ovaries during life must be very uncertain.

7th. *Hydatids of the ovaries.*—I have never met with this affection. For the reasons above stated, however, I believe in the existence of the affection, though probably of rare occurrence. Care should be taken not to mistake the ordinary cysts for hydatids, an error into which I believe our forefathers to have fallen, since in the works of Morgagni, and the older authors, I find constant allusions to the presence of hydatids in the ovaries.

8th. *Specific forms of tumor, not exactly malignant.*—Whatever other specific forms of ovarian tumors there may be, I am well convinced that many ovarian tumors are connected with a strumous diathesis: some are scrofulous from the commencement; others perhaps not, but in their progress so modified by the constitutional diathesis as to take on morbid processes and characters in all respects similar to those observed in other scrofulous tumors.

9th. *The complications of ovarian disease* are constitutional states (especially strumous diathesis)—similar or different forms of structural diseases of other organs—some sympathetic derangement of distant parts—but chiefly affections arising out of the mechanical inconvenience of the tumor, amongst which may be mentioned deranged digestive organs, thoracic organs, &c.; peritonitis, and other inflammations; ascites, œdema, &c.

The treatment of ovarian disease may be divided into the palliative and curative; and these again may be considered in two points of view, viz. the measures of treatment which come fairly within the province of the physician, and those that properly belong to the surgeon. I shall commence with a consideration of the medical or general plan of treatment, and first of

Inflammatory affections of the Ovaries.

Pure inflammation of the previously healthy ovaries is necessarily an affection not to be easily discriminated, perhaps because these bodies are in their natural state very small; next, because their functions are, though highly important in the œconomy, not vital; and, moreover, the organ is double, and we cannot in it, as in some other double organs, pronounce with certainty that the appropriate functions are being exercised by the one and not the other organ; and lastly, because by some extraordinary coincidence it happens that the sympathetic derangements of other parts in connection with ovarian disease are by no means so numerous and well marked as happens of some other affections. In spite, however, of these difficulties, I feel convinced that we often meet with cases, especially amongst young women, in whom some irregularity obtains respecting the menstrual functions, in females very recently married, particularly those who have married rather late in life, which upon careful examition we may fairly attribute to inflammatory affection of the ovaries, either as the whole or large part of the source of mischief. In these instances some irregularity of temperature is observed; slight increase of frequency of the pulse, though it may be very feeble; some derangement of the digestive organs, and more especially the stomach, and some symptoms of an hysterical character. There is always more or less pain, but frequently, from a too nice sense of delicacy, the situation of this pain is not sufficiently accurately explained; and this subject requires to be carefully investigated by the medical attendant, rather than to be entirely entrusted to the description of the patient. Cases of this kind have been occasionally, I suspect, overlooked as mere hysterical and nervous disorders. When, however, the great importance of the subject is considered, it will induce increased caution in the investigation and treatment of affections in the first instance, indeed, apparently trivial, but which may go on to the establishment of organic changes of the most formidable character.

The treatment required is of course of the antiphlogistic kind; but in my own experience, I should say that general blood-letting is neither so well borne, or so much required, as in many other forms of inflammation. Cupping to the lower part of the back, leeches to the sacrum, inside of the thighs, or vulvæ, are the preferable modes of bleeding. The risk of inflammation not being in the direction of the deposition of coagulable lymph, excepting where the serous envelope of the ovaries is the part affected, mercury carried to salivation is no more required

than general blood-letting; both, indeed, may be prejudicial; mercurial alteratives and aperients, followed by saline purgatives moderately used, are highly proper; and especial care should be taken to observe that the colon be not loaded with hardened fæces, which may keep up a great source of local irritation. Abstinence from stimulating food and drink, and frequent recurrence to the horizontal posture, should be carefully enjoined. The emetic tartar, combined with the salines, in moderate doses, so as to affect the skin and produce slight nausea, will be found useful. Tepid hip baths and tepid narcotic fomentations, or enemata, especially the conium, have been recommended by Dr. Seymour, and I can bear testimony to their beneficial effects in several instances which have come within my own observation. Above all, if the patient be married, a temporary abstinence from the nuptial bed should be strictly enjoined.

The pain and other symptoms removed, and the natural performance of the menstrual function (if previously deranged) being restored, better diet and light tonics, especially the milder preparations of iron, may be advantageously employed. Now this class of cases should be carefully distinguished from those in which absence, irregularity, or other morbid conditions of the catamenia, are dependent upon a deficiency of richness and fibrin of the blood, and lax conditions of the muscular fibre generally, and with them probably of the natural textures of the uterus and ovaria, in which cases a tonic and invigorating treatment from the first, even with the use of general and local stimulants, may be advantageous, care only being taken to correct the secretions of the great secernent glands, and to secure the due evacuation of the lower bowels.

Ovarian tumors once formed, from whatever cause, may become the seat of inflammation. The inflammation in this instance may principally affect the investing membrane, or the body of the tumor, if solid and organized. Inflammation affecting either the body or investing cyst of an ovarian tumor is not, I believe, so readily to be extinguished as it may be in some other parts of the human frame: to this conclusion I have been led by the observation of several cases both in my own practice, and from the records of other practitioners, and it seems further borne out by the Cases No. IV. and V. The rationale of this circumstance may probably be explained in the fact, that the cyst, constantly stretched from within, and exposed to pressure, friction, &c. from without, is thus placed in the conditions most favourable to keep up inflammatory action when once established; whilst the organized structure of the tumor itself, somewhat similarly situated as regards pressure and other sources of irritation, is perhaps less susceptible of the influence of remedial measures of the antiphlogistic character, than other previously healthy organic structures.

These circumstances are, however, the less to be regretted, in that these forms of inflammation require rather to be kept within bounds, than to be eradicated and extinguished. Allusion has been already made to the opinions of Dr. Ramsbotham, that the growth of ovarion tumors is sometimes arrested by the formation of extensive adhesions between the cyst and the neighbouring parts; such adhesions must of course be due to inflammation. I have already given my own reasons for doubting the accuracy of this observation; but at the same time it is hardly necessary for me to observe, that the opinions of Dr. Ramsbotham deserve our highest respect and consideration. It is not necessary here to do more than refer to the position formerly assumed, that inflammation, or a process analogous to it, frequently induces softening of the harder portions of the tumor; and that this process, together with adhesion of the cyst to neighbouring parts and ulceration, have thus constituted the means of permanent cure, or great temporary relief of the affection. In these instances I have invariably observed a rapid increase in the growth of the tumor, and constitutional symptoms have occurred of a formidable and often most dangerous character. The reader may find several cases in point in the works of Dr. Seymour and other authors, and is referred also to Cases No. IV. and V.

Sufficient inducement therefore exists to lead the practitioner to confine himself to the adoption of such measures of general and local treatment as shall be required to keep inflammatory action within due bounds, and to miti-

gate the sufferings of the patient, and ward off the more imminent dangers by which life may be threatened. It is hardly necessary to enumerate the measures in which this practice consists, which must be conducted according to the peculiarities of each individual case. The means to be adopted will readily suggest themselves to every practical man, whose skill and tact will be chiefly tried in the timeliness of their application, and the extent to which it may be required to use them.

[To be continued.]

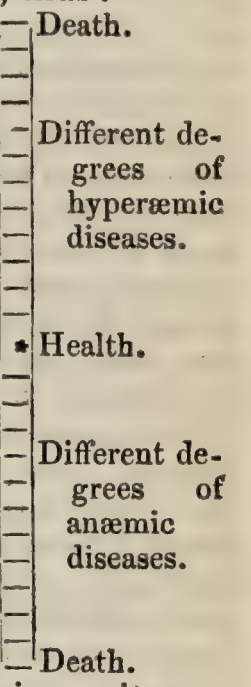
ABSURDITY OF MODERN DOCTRINES IN REGARD TO STHENIC & ASTHENIC DISEASES.

To the Editor of the Medical Gazette.

Sir,

As it is not usual for medical authors, or indeed for any writers zealous for the truth of what they advance, to refuse to say where the evidence on which they rely may be found, I am disposed to look upon the silence of Drs. Crawford and Tweedie, as well as that of Dr. Copland, as a tacit confession that no evidence, to the extent which is really necessary to maintain their opinions, has ever been placed on record. I shall, therefore, consider them as having adopted the views contained in their article on Inflammation, not because they admit of being proved to be true, but because they *seem* to afford the easiest and most satisfactory solution of the phenomena attendant on the inflammatory state; because they help them over what has hitherto been the pons asinorum of all physio-pathological writers from Mr. Hunter to the present time, viz., the difficulty of explaining the difference between active and passive inflammation.

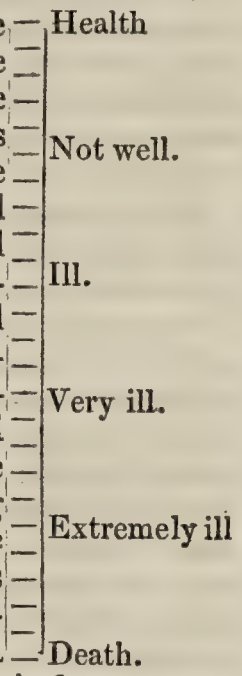
I think it will be easy to show, in a somewhat novel manner perhaps, though not the less true on that account, that the doctrines alluded to do in reality involve greater difficulties than they explain, and in fact lead to absurdity. According to these doctrines there are two great classes or divisions of diseases, the one belonging to what is called the hyperæmic, and the other to the anæmic condition; the state of health being somewhere between these two opposite conditions; the former being an exaltation above, and the latter a depression below the state of health. It is further taught, that out of each of these two conditions spring peculiar diseases which terminate alike in death, and that the object of the antiphlogistic treatment is to lower and bring down the sthenic diseases to the standard of health. Now if we were to attempt to form a scale according to these doctrines it would be necessary to place death at each end, and health in the middle, thus:



By exhibiting the modern doctrines in this point of view, their fallacy is seen at a single glance; because, inasmuch as *sthenic* diseases sooner or later before arriving at the point of death go down the scale, and become *asthenic* without passing through health, there is in reality no termination to sthenic inflammatory diseases in the direction above health. Thus we see that although such a scale would be in accordance with modern science, it cannot be formed at all, because it would be contradicted by the daily experience of every practical man. It follows, therefore, that the idea of a person being ill, and yet at the same time being in a state exalted above that of health, is absurd. If this be the case, how can we be surprised at seeing it at length acknowledged with sorrow that "scientific men are not practical?" The fact is so, and the reason, to my apprehension at least, clear enough—the science is not sound; and the only wonder is that it has not been admitted before.

I would now, sir, beg to draw your attention to a scale which *can* be formed, and which shall be exactly the reverse of the preceding, viz. in opposition to the doctrines of the schools, but in strict accordance with fact and observation. Perfect health and complete death are the two extreme states in which it is possible for a man to be; no one can be beyond, that is, either above or below these limits, because no person can be *more than quite well* on the one hand, or *more than quite dead*

on the other; consequently, *all disease must necessarily be intermediate between health and death.* When a person is ill, therefore, he falls below health, and drops down through the scale more or less rapidly, according to the degree and severity of his illness, whatever it may be, so that a scale formed according to such views would stand thus:—



Health being at the top, and death at the bottom. These are plain and simple truths which can neither be perverted or denied; and I would beg your special attention to them, on account of their practical bearing. The most direct and immediate inference to which they lead is, that nearly the whole of the doctrines relating to the antiphlogistic treatment of diseases must necessarily be erroneous; for when a person is ill (*e.g.* violent inflammatory fever) he has fallen *down the scale;* he does not require to be antiphlogisticated, and bled and lowered still *nearer to death,* but to be restored and *raised up* to the standard of health. Sooner or later, therefore, the antiphlogistic method must give way to an improved system of therapeutics; and when this shall be accomplished, then, but not till then, will the reproach of not being practical cease to apply to the scientific practitioner. There is much, however, to be done before this can be effected, for though any folly flies through the world like wildfire, truth still has to work its way by slow degrees. The first step to be taken consists in establishing sound principles, for no stream can be clear in its course which is muddy at the fountain-head, and it is on this account that I have called upon Doctors Copland and Crawford and Tweedie to produce their authorities.

I have the honour to be, sir,
Your obedient servant,
J. W. Earle.

Cheltenham, August 27, 1844.

RETROVERSION OF THE UTERUS

IN ITS UNIMPREGNATED STATE, WITH PROLAPSUS OF THE BLADDER.

By James Whitehead, M.R.C.S.E.
Surgeon to the Manchester Lying-in Hospital, &c.

(For the London Medical Gazette.)

Writers on midwifery who have described retroversion of the uterus, speak of it, so far as I have been able to ascertain, as occurring principally during the period of utero-gestation; and that, at a certain stage of the process, by the efforts of nature alone, and sometimes by manual assistance, it either rises into the cavity of the abdomen, or the premature expulsion of its contents enables it to resume its natural position in the pelvis; after which, sudden cessation of all disturbance ensues, and the patient is at once restored to health. It is stated that sometimes a portion of the uterus continues to occupy its abnormal position till gestation is completed, so much of it only ascending into the abdominal as cannot be contained within the pelvic cavity. Cases are recorded of the displacement having been occasioned by scirrhus of the uterus, morbid growths within its cavity, and enlargement from various other causes; and even where the organ had undergone no alteration whatever, the pelvis and neighbouring viscera remaining also unchanged. Roche and Sanson speak of it as if it were of frequent occurrence while the uterus is unimpregnated and healthy, but specify no cases; while pathologists of our own country regard it as a rare occurrence under any circumstances, making but slight allusion to it in the latter state. I know no reason why it should, on the average, be more frequently met with in France than in England; and if the statement of these eminent pathologists be correct, the case has probably, on some occasions, been overlooked by us. It certainly does appear impossible, taking into account the relative dimensions of the uterus, on the one hand, and the cavity which contains it, on the other, that the kind of displacement in question, the organ being unimpregnated and healthy, could be productive of any noticeable inconvenience to the other pelvic viscera. Its enlargement, therefore, whether from the presence of an ovum, or

from diseased action, would seem necessary to the development of those functional disturbances which render the case so important in its character, and occasionally so serious in its results. To those who have met with it during pregnancy only, the following case may be of interest, as it shows that not only does retroversion of the uterus sometimes exist while the organ is unoccupied, and, so far as can be ascertained, of no more than its healthy size, but also that a train of most tedious and troublesome symptoms, inducing a state of imminent danger to the patient, may supervene thereupon. The reader will probably arrive at the conclusion, however, that the accident at commencement occurred in the usual way, the uterus remaining, after its contents were expelled, unreduced. As the real nature of the case was for a time obscured by symptoms which at first were believed to be idiopathic, I prefer giving the principal part of the account as put down, during its progress, in my note-book.

On the 26th May, 1844, I was requested to see E. O., on account of suppression of urine. She is a married woman, 30 years of age, mother of one child; greatly emaciated, and of relaxed habit. The abdomen was found considerably enlarged, tense, and extremely painful; uterus prolapsed; the portion extruded beyond the os externum vaginæ in size equal to the half of a pessary of the largest dimensions, being œdematous, excoriated, and immoveable. Her sufferings, contrary to expectation, were but very slightly mitigated by emptying the bladder, the urine evacuated amounting to not more than a pint. After this procedure, the most urgent symptom appeared to be smarting at the seat, which was so distressing, that the patient believed it to be keeping up all her other sufferings. It had troubled her only during the last twenty or twenty-four hours, and was accompanied by frequent but ineffectual efforts to empty the bowels. Although generally costive, the bowels of late had acted at least once daily, the effect of aperient medicine. A gentle effort was, in the next place, made to reduce the prolapsus; but the parts could be no more than simply touched, on account of their extreme soreness, and the pain over the lower part of the abdomen, and along the course of the rectum, produced by the slightest impulse given to them. Below the orifice of the uterus, which was situated at the lower third of the extruded mass, the finger could pass only a short distance within the vagina, owing to its lining membrane being folded down; and at the floor of the passage, betwixt it and the bowel, was felt a hard painful tumor, of considerable size, which appeared to be formed of hard fæces accumulated in the rectum. The catheter, on entering the bladder, would pass only towards the right side, in a direction towards the right sacro-iliac joint. The iliac and hypogastric regions, so far as could be ascertained by the slight pressure the patient was able to bear, were hard, irregular, and doughy to the feel. The stomach had been irritable all day, rejecting every thing taken; tongue red and glazed, furred at its back part, raw at its tip and edges; pulse small and feeble, beating upwards of 140 per minute; skin hot and parched; thirst insatiable. For two or three years she has been troubled with a bearing down of the womb; has had several miscarriages, but is not pregnant at present. Feeling no doubt that all the above-named symptoms owed their existence to accumulation of fæces in the lower bowels, with inflammation of the mucous tissues, the following plan of treatment was adopted:—Ordered, that eight leeches be applied to the hypogastrium, to be followed by fomentations and a poultice; to take a pill containing two grains of calomel and the same quantity of opium at bed-time, and an ounce of castor oil early the following morning. The ingesta to consist entirely of gruel, barley-water, and linseed infusion.

27th, P.M.—Catheterism was performed morning and evening, the urine evacuated each time amounting to twelve or fourteen ounces. The pain and tension of the abdomen have been somewhat relieved by the leeching, &c., but the fulness remains. There has been no action on the bowels, but frequent attempts have been made, accompanied by excruciating tenesmus. The rectum is evidently impacted with fæces, as appears from increased tumefaction at the back part and floor of the vagina. On examining the situa-

tion of the bladder more carefully with the catheter, it appeared to be located entirely in the right half of the pelvic cavity, and the uterus nearly as much towards the left, as the catheter, which was introduced into it with a view to determine this point, passed readily to the extent of from an inch and a half to two inches in a direction towards the left sacro-iliac joint; occasioning much smarting pain, however, as if from excoriation. Ordered an enema, consisting of gruel and castor oil; to be repeated if necessary: a saline draught to be taken every three hours; calomel and opium (aa. gr. ij.) at bed-time, and an ounce of castor oil in the morning. The excoriated parts to be anointed with Cerat. Cetacei.

28th, P.M. — Catheterism morning and evening; urine same as before in quantity. The uterus and bladder remain in the same relative position. The oil, none of which has been rejected, has passed through the bowels, producing a liquid motion mixed with gritty particles, but no scybalæ; tenesmus continues very distressing; tongue and thirst as usual; pulse 140; abdomen more tense and painful than yesterday. Ordered the fomentations, enemata, and saline draughts, to be continued; calomel and opium (aa. gr. ij.) at bed-time, and an ounce of castor oil in the morning.

29th, P.M. — Catheterism morning and evening; urine clear and straw-coloured, and as usual in quantity. She slept comfortably several hours during the beginning of the night, and awoke much refreshed. She has had one copious liquid evacuation, mixed plentifully with gritty particles, and about half a dozen dry, flat, knotty pieces, nearly the size of walnuts. Abdomen still full, and very tender on pressure. Farther bleeding is indicated, but the patient seems too feeble to bear it. Administered from time to time a little brandy in gruel with apparent benefit. Fomentations to be continued, and afterwards a large linseed-meal poultice, to be renewed every few hours; the enemata to be repeated; calomel and opium (aa. gr. ij.) at bed-time, and an ounce of castor oil in the morning.

30th, P.M. — Catheterism morning and evening. Slept comfortably for two or three hours at the beginning of the night, since which she has been restless from tenesmus and frequent purging; dejections scanty and liquid, mixed with gritty matter, but no solid fæces; tension and pain of abdomen increased; pulse small, thready, and very quick; tongue red and parched. Ordered six leeches to be applied to the hypogastrium, after which fomentations and a poultice. Calomel and opium to be omitted. To take the following draught and pill every four hours:—

℞ Solut. Sodæ Tart. ʒj.; Mucil. Acac. ʒiv.; Magn. Sulph. ʒj.; Tinct. Cardam. ʒj. M. ft. haust.

℞ Pil. Hyd. gr. iss.; Pulv. Ipecac. gr. ss.; Morph. Mur. gr. ⅛. M. ft. pil.

An ounce of castor oil to be taken at bed-time.

31st, P.M.—Catheterism morning and evening; urine as usual. The last bleeding has afforded great relief. Abdomen perceptibly reduced in size, and less painful; the bowels have acted freely, and a large quantity of dry fæculent matter has been voided, most of the pieces being streaked with blood and muco-pus; tenesmus not so distressing. The uterus and bladder maintain their relative position as before; the protruded parts still immoveable, from the severe pain any effort at reduction occasions. The abdomen, however, will now better bear the pressure of the hand, by which can be traced the course of the colon, and its distension with fæces. The enemata afford no relief whatever; not more than two ounces of liquid can be introduced at a time, which the patient has not the power of retaining longer than a few seconds. As the operation occasions great suffering, they are ordered to be discontinued. The stomach has occasionally rejected its contents to-day; mouth not so dry; pulse small and quick; prostration considerable. Remedies to be continued, and an ounce of castor oil to be taken at bed-time.

June 1st.—Catheterism morning and evening. The bowels have acted freely, and dry scybalous fæces have been voided in quantity sufficient, exclusive of the liquid part, to half fill a chamber vessel of ordinary dimensions. The uterus and bladder maintain their relative position as before; the protruded parts still irreducible. As the tumefaction at the floor and back part of the vagina remained undiminished, an attempt was

made to ascertain its nature by introducing the finger within the rectum; but this could not be endured. Fomentations, and the mixture and pills, to be continued. An ounce of castor oil, with twenty drops of laudanum, to be taken at bed-time.

2d.—Catheterism morning and evening. Has passed a restless night, on account of tenesmus and frequent purging, accompanied by severe griping pain; dejections copious and scybalous; abdomen less tender on pressure; colon still distended with fæces in greater part of its course, with here and there a little flatus. Remedies to be continued, and an ounce of castor oil with laudanum early in the morning.

3d.—Catheterism morning and evening. The purging has continued through the night, but is now somewhat abated. An incredible quantity of dry, hard, knotty fæces have been voided, resulting in great relief to the patient; tenesmus still very distressing; tongue not so red; thirst a little abated; pulse 126; countenance less anxious. The abdomen, although considerably enlarged, is not so painful; the prolapsus still irreducible, but pressure upon it produces much less of suffering than it did formerly. The tumefaction before alluded to, however, being scarcely if at all diminished, examination per anum was again attempted, and with success. The lower part of the rectum was empty. At a point opposite the junction of the coccyx with the sacrum, the finger was arrested by a hard oblong tumor lying across the bowel, reducing its capacity at this part to a mere fissure; beyond this it was impacted with hardened fæces. On attempting to raise this tumor, which was but very slightly moveable, the impulse was communicated to the bladder, and to all the protruded mass, and occasioned considerable pain about the sacrum, hips, and hypogastrium. Entertaining from these signs a belief that the tumefaction hitherto regarded as a collection of fæces must be the uterus, further and more careful examination was made within the vagina, and the outlines of this organ at once clearly defined; its fundus below, its lateral margins converging upwards and reaching to the symphysis pubis, thence making a rectangular turn forward. All further doubt on the subject was put at rest by exploring its interior with a catheter. The instrument, one of the long elastic kind, with its ordinary curve considerably increased (the female catheter having been found too straight), passed first in the direction before indicated, namely, backwards and upwards for nearly two inches; this was the extent to which the straight instrument formerly used was passed, having been arrested, not at the fundus uteri, as was supposed, but at the sharp turn which the passage makes at this part. The catheter then took a downward direction towards the hollow of the sacrum, and lastly forwards to the fundus uteri, where its point could be felt by the finger when rested against the tumor, either within the rectum, or at the floor of the vagina, behind the fourchette. The length of the portion of catheter passing within the uterus, measuring from the external orifice, is four inches and a half, giving to the womb the appearance of being considerably elongated. This, however, there is great reason to believe, is not the case, as, upon closer inspection, the opening leading to the uterus (and probably the canal also to some extent), is evidently not the os tincæ, but a fold of vaginal membrane pushed down by the bladder, of the descent of which organ I did not become fully aware until to-day. This oversight was owing, in great measure, to the objection the patient evinced to any exposure during examination, and also to the œdematous and excoriated state of the parts, rendering them so irritable as to forbid, for some time, the necessary manipulatory interference. Its earlier discovery, however, could have made no difference in the treatment. It will be unnecessary to fatigue the reader with further detail of the patient's daily progress; it may be sufficient to say, that from this date her improvement, though slow, was gradual and uninterrupted; but she could not evacuate the bladder by her own efforts until the thirteenth or fourteenth day; nor did the bowels seem to be fully emptied of their superfluous contents before the end of the fourth week. I never before witnessed so large an accumulation of fæces, nor did I think it possible that, in the human subject, the bowels could be made to contain such an enormous quantity of matter as was voided from this patient during a period when no

solid food whatever was taken in, nor anything imbibed that could possibly have increased the mass already collected.

The patient is now (August 10th) perfectly recovered, and able to discharge her ordinary duties, and to walk about with comfort, when the bladder is kept within the pelvis. This is effectually done by aid of a kind of pessary formed of a small bladder, attached by its mouth to the end of a tube, whose other extremity is provided with a valve, to prevent escape of air from within. This pessary is inflated while within the vagina (the prolapsus having been previously reduced), by means of a syringe; and a T-bandage maintains it in its situation.

The uterus remains in the hollow of the sacrum, every justifiable means having been used to effect its reduction without success. The following is a brief history of the patient's illness previous to my attendance :—

About four years ago, being three or four months pregnant of her first child, she was suddenly seized, while walking in the street, with severe pain of the back and lower part of the abdomen, and an urgent desire to void the urine. Every attempt she made, however, proved ineffectual, and after several hours, the inconvenience continuing to increase, the aid of a surgeon was obtained, who relieved her with the catheter. It was found necessary to repeat the operation during five or six days, after which the patient recovered. She was delivered about five months after this of a full-grown child, who is now living. Three or four months afterwards she became aware of a descent of the womb, for which no surgical measures were adopted. About twelve months after the above-named confinement, being near the end of the third month of her second pregnancy, she experienced a recurrence of symptoms similar to those just mentioned, namely, partial suppression of urine, sometimes micturition, pain of the back, &c. These continued six or seven days, when uterine hæmorrhage came on, accompanied by labour pains; and she was delivered of a fœtus about three months grown. Seven months later she had another miscarriage under precisely similar circumstances, and, as near as could be ascertained, at the same period of utero-gestation. A third miscarriage took place nine months after the last, attended by the same train of symptoms, at the same period of utero-gestation, and with exactly similar results. In each of these cases the invasion of the symptoms was not sudden, as in the first instance—the one, namely, which terminated successfully for both mother and child. Their approach was gradual, under the form of what is commonly called an attack of gravel. At the onset a slight uneasiness in making water was felt, with aching across the lower part of the abdomen and hips, and pain in the back. These symptoms increased day by day; the difficulty assumed the form of micturition, which occasionally merged in total suppression of urine. After continuing for a period of from six to ten days, hæmorrhage and expulsive pains came on, and the birth of the ovum was the result. In all these instances the patient was particularly sensible of the womb remaining, after the expulsion of its contents, in a wrong position; it never returned to its "proper place." Since the last miscarriage, which occurred in the spring of 1843, she has menstruated regularly every month without an exception, the discharge continuing at each period for five or six days, and being more copious, as she thought, than it ought to have been.

At the end of February 1844, another and very severe attack of pain in the back, and around the lower part of the person, came on, accompanied by total suppression of urine. These symptoms appeared to be owing to an alteration in the situation of the womb, which, during her ordinary avocations about the house, had suddenly descended lower than usual. Her medical attendant, who relieved her with the catheter, and had occasion to see her for several days, informed her she was pregnant; this, however, she maintained could not be the case, as menstruation had ceased only a few days previously. She continued to be troubled in this manner, with only temporary relief, sometimes by means of the catheter, and occasionally by the aid of medicine, until she came under my care on the 26th of May.

It was stated above, that the patient first experienced inconvenience from what she denominates a bearing down, three or four months after her first

confinement; the womb at that period coming down beyond the external parts, and disabling her from the performance of her ordinary duties. It is probable, however, that the bearing down here spoken of consisted principally of the bladder, with only slight displacement of the womb, as she says the substance was very like what existed for a short time before labour, and which had to be returned before delivery could be effected. Since her first miscarriage, she has often tried, from professional advice, to wear a pessary, but could never bear the presence of one of any kind longer than half an hour or an hour at a time; and during the last several months she has not been able to bear the introduction of one at all, even of the softest kind and smallest dimensions, on account of the pain produced by it.

Cases like the foregoing are, I think, of rare occurrence; certainly but very few of the kind have hitherto been recorded. That its real nature, for a time, should have escaped discovery, will, I apprehend, excite no surprise, as the opening leading to the uterus was, in all its characters, so similar to the os tincæ, and the general appearance of the parts altogether so like an ordinary prolapsus uteri, that an idea of its being anything else was never entertained. The anatomical relations of the parts, too, seemed to preclude the possibility of descent of the bladder and vagina to such an extent, without being accompanied by the uterus; and this opinion is borne out by the fact, now sufficiently clear, that the attachment naturally existing between the external or cellular surface of the vaginal membrane and cervix uteri has been broken down; indeed, under no other circumstances could the parts have assumed the aspect described, without bringing down the lower part of the uterus at the same time. The tenesmus continuing almost unrelieved, and the prolapsed parts immoveable, even after the bowels had been so copiously evacuated; the irritation produced by the operation of administering the enemata—not merely by the introduction of the tube, but also by the presence of the liquid within the bowel, and the smallness of the quantity which could be made to pass at a time; the excruciating pain continuing about the sacrum and hips, being the result, as I supposed, of pressure upon the sacral nerves; and, above all, the persistent state of the tumefaction in the hollow of the sacrum;—these circumstances suggested the existence of other causes, besides those which had been originally assigned, for the continuance of the disturbance in so aggravated a form.

From the extent to which the catheter would pass into the uterus, this organ, as was before stated, appeared to be considerably elongated. This, however, was not really the case, as the material extruded from the vagina was clearly no part of the uterus, but only the lining membrane of the vagina, of a reflexion of which the orifice, and the tube leading to the uterus, were formed. This is proved beyond doubt by the following evidence:—

1. On examining per vaginam below the prolapsus, the outlines and situation of the uterus can be clearly defined; its broad part below lying across the sacrum; its mouth upwards, behind the symphysis pubis, where the peculiar firm feel characteristic of the uterine texture ceases; and the continuation of the passage from this point externally is much softer and altogether different.

2. The finger can pass readily to the extent of at least an inch and a half along this membranous tube, until arrested by a firmer substance, presenting a more constricted opening, of a fissurated shape, whose aspect is upward and slightly forward: this is the true os tincæ.

3. On introducing the catheter into the urethra, which is not more than half an inch in length at most, it will pass freely in a downward and forward direction, external to the pelvis, till its point arrives behind the fold of membrane forming the margin of what appeared to be the os uteri, and can be felt on the finger, when within the tube, as far as the os tincæ.

4. Reducing the prolapsus, and passing the vaginal membrane as far back as can be done, the orifice becomes situated in an upward direction against the fundus of the bladder; and the cervix and whole body of the uterus lying in the hollow of the sacrum can be clearly defined through this membrane.

The accumulation *a tergo* had brought

the uterus as far down as the deep pelvic fascia would allow, as this membrane was tensely stretched from one side of the pelvis to the other. It is now considerably higher, however; but, as was before stated, cannot be raised out of the hollow of the sacrum.

In regard to the length of time this state of parts has existed, it will probably be difficult to determine. It may be of recent date, or it may have existed two or three years. The uterus in its healthy unimpregnated condition has naturally, in its descent, a tendency to follow the course of the vagina; the fundus uteri, owing to its connection with the broad suspensory membrane, being always uppermost. I can conceive but one way in which retroversion could take place under these circumstances; namely, a mass of hard fæces accumulated in the sigmoid division of the colon, in its descent towards the rectum, might impinge upon the uterus, and force it into the hollow of the sacrum. The more probable inference, however, is, that the displacement has existed, partially at least, ever since the patient's last miscarriage in March 1843, if not from a much earlier date. Two reasons appear in support of this supposition: 1st, her inability to wear a pessary, even of very small dimensions, or of whatever substance made, on account of the pain it occasioned along the sacrum, in the groins, and about the hips; 2d, a similar kind of suffering induced in the same parts, and quite unlike anything she used formerly to experience, during coition. To which may be added her repeated miscarriages, the peculiar symptoms accompanying each of them, the period of gestation at which they occurred, and the patient's statement that the womb never afterwards returned to its proper place.

Whichever way occasioned, however, there is little doubt that its pressure upon the rectum, acting as a constant mechanical impediment to the functional efforts of this organ, was the principal cause, originally, of all the troubles that have been enumerated. The immediate effect would be, imperfect evacuation and consequent retention of fæces, which, continuing for a length of time, would have a tendency to induce an irritable state of the mucous membrane of the lower bowels, which might result in inflammation and all its attendant evils; for fæculent matter, long retained within the bowels, loses its liquid part by absorption, gradually becomes less capable of being acted upon by the mucous products, and soon acquires all the properties of a foreign irritant body; disordering the action of the mucous surfaces, changing the nature of their secretions, and sometimes producing temporary local suspension of their functions. The accumulation having become considerable, its constant action would be to push down the uterus (supposed already to be retroverted), and fix its fundus more firmly in its malposition, increasing at the same time the pressure of its mouth against the urethra. To this would succeed suppression of urine; and, as the bladder became distended, its ascent out of the pelvis would be prevented by the loaded colon, and prolapsus or rupture would be inevitable.

Another circumstance may be cited as favouring, and, indeed, as being every way sufficient in itself to effect the prolapsus of the bladder. It must be remembered, that the disposition to temporary increase of substance, and capability of distension, communicated to all the parts concerned in the process of utero-gestation during the growth of the fœtus in utero, would be altogether wanting in the present case; on which account the reflexion of peritoneum prolonged from the abdominal parietes to the bladder, and thence to the uterus, being brought down in such a manner by this latter organ as to confine the bladder behind and below the pubis, would, by its unyielding tension, effectually oppose the ascent of this viscus out of the pelvis, and give it a constant tendency to escape per vaginam.

Oxford Street, Manchester,
Aug. 14, 1844.

ANALYSES AND NOTICES OF BOOKS.

"L'auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Researches on Phthisis. By P. C. A. LOUIS, M.D. 2d Edition. Translated by WALTER HAYLE WALSHE, M.D. London: printed for the Sydenham Society.

WE have all along been rather surprised that the Council of the Sydenham

Society should have thought it expedient to publish a translation of Louis's Researches on Phthisis; especially during the first year of their operations, when it was a matter of the greatest moment that a careful and judicious selection of works should be made. Not that we think for one instant that Louis' work is unworthy the consideration of the Society; we are very far from doing this, regarding it as we do as one of the most complete and masterly accounts of the disease of which it professes to treat, to be found in any language. Our reason for doubting the expediency of Louis' work finding a place in the list of the Society's publications is simply this, that a translation, and that a most excellent one, exists already, by Dr. Cowan. True it is, that Dr. Cowan's translation was made from the first edition, and this by Dr. Walshe contains the further researches of Louis incorporated into the second; still, we do not think that the additions made are of sufficient number and importance to justify the Society in presenting a totally new translation to its members, many of whom must be already in possession of Dr. Cowan's work. And in saying this we are convinced we are stating the opinion of many members of the Sydenham Society.

It must be ever borne in mind by the Council, that the objeet of this and similar societies is to supply to its members such works as, from their rarity or expense, it would be either difficult or inconvenient for them to procure. Now, we do not think that this new translation of Louis can be brought under either one or other of these classes. Without denying the importance of the new matter found in the second edition, especially that of the chapter on Diagnosis, certain it is that a translation already existed containing by far the greater part of the matter found in the new volume, and the price of the original work is so small, that any one wishing to make himself acquainted with Louis' further researches might purchase the book itself at a very small expense.

As we have done our best to find fault, it is but fair we should give our meed of praise where praise is due. With respect to the execution of the work, Dr. Walsh has performed his task well and ably—of this there cannot be the slightest doubt. His style is easy and flowing, with but little of the stiffness and awkwardness exhibited by some versions; and we do not use the expression as a matter of course, when we say that his translation reads like an original work. We do not complain of the way in which it is done, but simply that it should have been done at all; we are of opinion that a new version of the book was not wanted. Nevertheless, having it on our shelf, we are pleased to have that which is in itself intrinsically so full of worth among the number of our Sydenham Society's series.

MEDICAL GAZETTE.

Friday, Sept. 13, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE MEDICAL PROFESSION BILL—No. V.

We trust that these comments of ours on the Medical Profession Bill will not be received by any individual among our brethren as dictated by any factious spirit, or the mere love of finding fault. We are conscious of no temper of the kind. On the contrary, we perform the task that has devolved upon us in this our public capacity with reluctance, and not without distaste. "Surely," as Milton says, "to every good and peaceable man, it must in nature be a hateful thing to be the displeaser and molester of others; much better would it like him to be the messenger of gladness and contentment. But when God commands to take the trumpet and blow a dolorous or a jarring blast, it lies not in man's will what he shall say or what he shall conceal." Like the mighty spirit we have invoked, we too "with small willingness endure to interrupt the pursuit of higher hopes, to leave a calm and pleasing solitariness, fed with cheerful

and confident thoughts, to embark in a troubled sea of noises and hoarse disputes, put from beholding the bright countenance of truth in the quiet and still air of delightful studies." It is only a paramount sense of duty that compels us on the course we follow. To us it seemed that the time was ripe for doing much good in the reorganization of the medical profession—that the opportunity even presented itself for accomplishing the good; but, by some strange fatality, the ripeness of the time is like to prove mere rottenness, the opportunity to do good to be turned into the occasion of perpetrating evil. We are all bound to struggle against what we regard as an imminent misfortune; and as the light came out of darkness, so we go on with our task of showing wherein the several provisions of the New Bill appear to us defective or pernicious, with a purpose always of bringing the torch in the end which shall satisfy all how easily the profession might be harmoniously reconstituted in its several departments, without violence to any one of the long established institutions connected with its study and its practice.

The 14th clause of the proposed bill enacts, "That no person, except such graduates in medicine and such other legal practitioners as are hereinafter mentioned, shall be entitled to be registered by the Council as a Licentiate in medicine and surgery, unless he shall have attained the age of *twenty-one* years, and shall have been examined by the Colleges hereinafter named; (that is to say) if in England, examined by the Royal College of Physicians of England, assisted by the Court of Examiners of the Apothecaries' Company, and also examined by the Royal College of Surgeons in England; and if in Scotland, examined by the Royal Colleges of Physicians and Surgeons of Scotland; and if in Ireland, examined by the Royal Colleges of Physicians and Surgeons in Ireland; and in every case shall have received letters testimonial from each of the bodies by which he shall have been examined, of his being duly qualified to practise as such licentiate."

That is to say, there shall be a certain minimum of education or term of study, and by implication of age, which shall qualify the medical student to present himself as candidate for letters testimonial of his fitness to practise as a licentiate in medicine and surgery. Furnished with these, he will register himself with the Council of Health and Education, and take his place in the world as an accredited practitioner.

The examination for this first initiatory grade is to take place, if in England, before the Royal College of Physicians, "assisted by the Court of Examiners of the Apothecaries' Company," and also before the Royal College of Surgeons; if in Scotland or Ireland, before the Royal Colleges of Physicians and Surgeons of Scotland and of Ireland respectively.

The initiatory measure we think good, IF THE EDUCATION BE PITCHED SUFFICIENTLY HIGH—all depends on this. The purpose may be, to secure a constant succession of men with the accomplishments at least of the present race of general practitioners, members of the Royal College of Surgeons and licentiates of Apothecaries' Hall; or it may be to inflict upon the public a generation of men with a legal qualification to practise medicine and surgery, with no greater amount of knowledge than the apothecary of the penultimate half century possessed, who might adventure upon phlebotomy perchance, although even that with reluctance, unless a physician were at his elbow to sanction the proceeding, and whose pride was to give a clyster adroitly, and to see that the patient took his

physic regularly. This would be a great misfortune; yet we have heard some express fears that it might be attempted. We, for our own part, have better faith, and believe that it will not. If taken, the tendency of the step would obviously be to make the consulting physician and surgeon much more indispensable than he has long been every day becoming; but as only a very small proportion of the community can command his fee, it would leave the mass at the mercy of incompetency. The rich man *might* be as well served as ever—there is the highly-educated physician or surgeon, or both, at his command; the poor man would necessarily be much worse off than he need be at present.

The education of the licentiate in medicine and surgery being regulated at least after the present standard of that of the graduate in medicine and member of the Royal College of Surgeons of any of the Scotch Colleges, or of the licentiate of the Apothecaries' Society and Royal College of Surgeons of England, the community would gain; the poor man would have a better medical attendant than he can now have in any one who is singly either a graduate of a Scotch University, a member of a Royal College of Surgeons, or a licentiate of the Apothecaries' Society. We trust that the Secretary of State for the Home Department, and the independent members of the Council of Health and Education, if it ever comes to be constituted, will look narrowly to this particular. They will have evidently a great responsibility upon their shoulders.

From the principle—the creation of a class of licentiates in medicine and surgery—let us turn to the means of testing their efficiency—the examining body or bodies; for it would seem from the wording of the 14th clause, which we have quoted, that he was to undergo two examinations, one before the College of Physicians, "*assisted by the Court of Examiners of the Apothecaries' Company*," another before the Royal College of Surgeons of England. The two examinations before different boards appears to us a clumsy contrivance. We can see the motive of it, however; the general practitioner is so often called upon to do both physic and minor surgery, to say nothing of midwifery, which, as manual, and often requiring the use of instruments, is obviously within the domain of surgery, that he could not well be sent forth unprepared for either—rhubarb in one hand, the lancet in the other; and then as there are the Royal College of Physicians and the Royal College of Surgeons, neither of them willing to yield one jot to the other, the candidate must be referred from Pall Mall East to Lincoln's Inn Fields, or from Lincoln's Inn Fields to Pall Mall East. Why could not the respective courts, or a deputation from each, meet half way, on some neutral ground? or why might they not meet one year in Pall Mall, another in Lincoln's Inn Fields, and examine the candidates at a single sitting? This would simplify the business.

But we have not yet touched, save by a side-wind, on the elaborately ingenious element in this system of examination. We are still at liberty to pause, and bid all lovers of conundrums set to work and cudgel their brains, in order that they may read a harder riddle than any that was ever propounded in diary or annual since the world began, and so secure themselves in a distinguished immortality:—Given a body, whose existence by all well-informed men is admitted to be an anomaly, whose influential position is acknowledged to be a mistake and a mischief, what is to be done with it in order that the anomaly may cease, the mistake be remedied? This is the question. Sim-

ple people would say: "Stifle the body, stop its breath; being dead, it will no longer be in the way." But there are certain objections to this short method. Even as man and other less noble animals breathe by two nostrils, so does the body in question exist by two spiracles, one commercial, old, useful perchance, and formerly the only vent; another, scientific, of recent formation, now become superfluous, prejudicial. And here simplicity steps in again, and says: "Stop up this needless blow-hole, then." But ingenuity says: "No, we shall not do that;" and we defy the most consummate interpreter of dreams and resolver of riddles, from the time of Samson and Joseph downwards, to guess what it is proposed to do with this superfluous, this useless, this pernicious body, for so it is regarded by implication through the whole of the Bill! The body is to have no say in, or connection with, matters medical, save and except to ASSIST THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, IN ITS EXAMINATION OF CANDIDATES FOR THE LICENSE TO PRACTISE GENERALLY! Poor Royal College of Physicians! what have you done to deserve this? Ashes of Harvey and of Hunter, of Sydenham and of Willis, of Freind and of Mead, of Heberden and of Baillie, will ye lie still at this? Are your successors so degenerate that they require assistance in their examinations? Your old place of meeting is turned into a shambles; in the halls where subjects of high import in human anatomy and physiology were once discussed, carcases of sheep and of oxen, of calves and of swine, now hang suspended; where mind once held high festivals, carnivorous man now prowls with wolfish eyes and ravenous maw for prey! But this profanation is nothing; it is offered but to the senseless stones. Not so the contemplated indignity. Of course the President and Censors, and Fellows of the Royal College of Physicians, are presumed to require assistance. They do not consist of a Paris, a Bright, a Chambers, a Copland, a Holland, a Seymour, a Watson, and many more besides; these men have no knowledge of medicines or their uses, or the art and mystery of prescribing them! They are to be *assisted* by the Court of Examiners of the Apothecaries' Company!

But to be serious, and the subject is abundantly so in fact, this association of the Court of Examiners of the Apothecaries' Society with the College of Physicians in the important trust of examiners is plainly a sop for the Worshipful Company for the abrogation of its privileges; for its extinction as a body having power over the study and practice of medicine. We cannot think it a happy suggestion. It is assistance forced on parties who do not want it, and who, we presume, when consulted, will certainly say as much.

It is dictated, as we conceive, by a misapprehension of the feelings both of the Court of Examiners of the Apothecaries' Society themselves, and of the profession at large. Who has ever held it an honour to belong to the Worshipful Company, or Society, of Apothecaries? Who has ever been sedulous to parade his L.A.S.? Who has not felt it rather as an infliction, as a quasi degradation, that he must needs associate himself with the packages, and jars, and gallipots, of the practice of medicine? At this time, indeed, at recent meetings of the general practitioners, we have seen and heard a good deal in commendation of the way in which the Worshipful Society of Apothecaries have discharged their duties, and of the advantages that must accrue to the public and the profession from the integrity of that Society with its present privileges and immunities; but this has been a mere party cry, and

was forced *ab imo pectore* of the general practitioner, when he saw himself cast off by the College of Surgeons, upon which his hopes had still rested, with which he had still held it distinction to have his name connected. The Court of Examiners of Apothecaries' Company are almost to a man members of the Royal College of Surgeons; one of them has just been drafted into the list of Fellows, and one is a member of the College of Physicians. The general practitioner of this country is, in fact, a Licentiate of Apothecaries' Company *upon compulsion;* he is a member of the College of Surgeons, and frequently of the College of Physicians, *by choice.* The College of Surgeons had but to have opened its arms to him, and given him a voice in the administration of its affairs, to have had him repudiating all connection with the lower grade of the apothecary. The way laid open to the general practitioner to achieve the distinction of being chosen an examiner in virtue of his rank as Member of the College of Surgeons or College of Physicians, it would become unnecessary to consider him in his capacity of Associate or Licentiate of the Trading Company. The practice of the vast majority of the general practitioners of this country is much rather that of the physician than the surgeon. Successful in life, and aiming at a higher position, he always associates himself with the College of Physicians, never with the College of Surgeons; and we have heard a shrewd man suggest, that now might be the time for the College of Physicians to recover its influence as the oldest and most natural head of the medical profession, to attach those to itself who of right belong to it, and ought never to have been separated from it. Let the practitioner of medicine, the professional man, be considered in his connection with the College of Physicians or of Surgeons, and all care for him as linked with the society of lower grade may be abandoned, and the College of Physicians spared, what it must surely feel as an indignity, the association in its highest functions with the apothecary, the man to whom it has hitherto been accustomed to dictate.

MOVEMENT IN THE PROFESSION.

Since our last, we have only notice of two additional meetings of members of the medical profession, to consider the provisions of Sir J. Graham's Medical Bill; but they are of high character, and well calculated to show the views and feelings of the profession on the measure. In the metropolis, the men of highest name and likelihood are mostly connected with the College of Physicians or College of Surgeons, even in the grade of Fellows; and the tone of London society of the best kind is essentially *apathic*—it is ill-breeding to show anything like excitement or feeling; he who did so would lose caste. Hence the apparent or public and implied indifference of the best men in the profession to the new Bill. The silence of these parties, however, must by no means be construed into approval; we never hear the Bill approved of; we never hear it spoken of in other terms than those of disapprobation. The general practitioners, too, seem to think that *their* interests are peculiarly compromised by the contemplated measure; they are alarmed, and sound the tocsin, mixing up care for themselves in very large proportion with their care for the public; they do not escape the suspicion even of inclining to do their own work under cover of merely pretended solicitude for the public. There is no profession of which so much jealousy is shown as of that of medicine: our work is so essentially bound up with charity,

which is a universal dispenser, never a receiver, of favours, that it seems as if all should be done without fee or reward. Even as common humanity, without ulterior consideration, leads us to assist him who falls accidentally in the street, so does the community feel at heart that prostrated by sickness it has a claim upon our sympathy and attention. And so in fact it has; and what is more, the claim is conceded. There are more debts incurred for medical attendance, perhaps, than for any thing else; there are certainly more bad debts on this than on any other score; yet are there probably not a dozen suits in the course of a year over the face of England, Scotland, and Ireland, at the instance of medical men, for the recovery of their just dues. We are not pleased, therefore, to see our brethren at this crisis urging too eagerly considerations that are merely personal to them; showing themselves in a selfish light, in which they do not stand habitually and in fact. Our readers know that we have still insisted on *protection to the community alone;* protection to the profession follows, if this be secured; protection to the community may be conceded; to the medical profession, as such, it never will be granted,—the spirit of the times is against it; we would not have it asked. Let our considerate readers lay this to heart. The provincial meetings on the whole have a decidedly higher tone than those that have taken place in the metropolis; probably because there are not in the provinces peculiar considerations splitting up the profession into segments, and cutting off the head from the trunk, the men who by superior acquirements, longer years devoted to study, and higher standing, are fitted to act as leaders. Nevertheless, we have to regret a somewhat too conspicuous and unfailing mixture of the protection to the profession in these provincial meetings also. We would fain hope to see this brought less prominently forward for the future.

The meetings alluded to above took place on the 7th and 9th inst. at Queen's College, Birmingham, Dr. John Birt Davies in the Chair, and at the General Infirmary, Bedford, Isaac Hurst, Esq. in the Chair. At the Birmingham meeting, it was resolved unanimously—

"That a Society to be called the Birmingham and Midland Districts Medical and Surgical Association be now formed, to take into consideration the provisions of Sir James Graham's Bill, and that a provisional Council be formed for the purpose of drawing up Rules and Regulations for the Members of the Association, with a view to protect the Public, and at the same time to promote the efficiency of the Medical Profession, by elevating the standard of its character and preserving its interests, and that the Council be requested to report thereon to the members at an early meeting."

At the Bedford meeting more was done. Resolutions were passed to the effect—

"That an association be formed for the purpose of watching the progress of the Bill, and taking any steps that may be necessary to oppose the objectionable clauses; that the members of the profession, residing in the county and neighbourhood, be invited to enrol themselves as members of such association, and that a committee be appointed to transact such business as may arise in carrying out the objects of the association.

"That this meeting views with unfeigned concern the admission by Sir James Graham, in his place in Parliament, of his inability to grapple with the crying evil of quackery, an evil admitted in all ages, and involving, as it does, the life and health of every subject in the realm, and therefore possessing a paramount claim upon the attention of the legislature. That other governments have not considered the evil to be so insuperable, and that the success of their efforts to suppress it, and to protect the lives of their subjects, prove that much may be done by legislation to diminish, if not to extinguish the evil altogether.

"That the profession do not expect nor require any exclusive rights or privileges, but that, considering the inability of the public to judge of medical skill, it ought to be protected from the ignorance of pretenders, and that the present medical practitioners having been required to make themselves acquainted with their profession at a great expense, it is the opinion of this meeting that all persons practising medicine or surgery should also be duly qualified for that purpose."

There are several other resolutions objecting to, and one approving of, several other provisions of the Bill, concluding with the hope "that Sir James Graham will not be deterred by the opposition which some parts of the Bill have called forth, from reconsidering the subject, and from granting such protection as may guard the public from imposition, and the profession from the inroads of the uneducated and unqualified.

REPORTS OF CASES
OCCURRING AT
THE WESTMINSTER HOSPITAL.
WITH REMARKS,
By B. Phillips, Esq. F.R.S.

Injury to the Scrotum followed by Sloughing.

John Harper, æt. 32, brewer's drayman, admitted into Henry Hoare's Ward, June 3, 1844, under Mr. White, having received a blow on the scrotum. He states that he had suffered from hydrocele for several months, which had been gradually increasing in size, but he had not used any means for its relief. He was in a state of considerable irritation, with small pulse, when admitted, and, although brought to the hospital immediately after the receipt of the injury, the scrotum was greatly swollen. He was placed in bed, and a small quantity of stimulus given him, and warm fomentations were applied to the scrotum.

June 4th.—Complains of great pain from the distension of the injured parts; not slept during the night.

Hirudines xviij. to be applied to the scrotum, and to take the following mixture:—

℞ Liq. Am. Acet. ʒj.; Tr. Opii, ♏xx.; Mist. Camph. ʒvj. Ft. Mist. ʒj. 4tis horis.

5th.—Slept for a short time during the night, but still in great pain; bowels confined; the leeches bled a good deal, and the scrotum is not so vividly red as it was; pulse 118, small.

℞ Haust. Aper. statim, and poppy fomentation to the scrotum.

6th.—Bowels freely moved; the constitution is beginning to suffer from the local injury; a considerable degree of irritative fever is set up, and the pulse is very quick, and occasionally intermittent; the scrotum is excessively tender, so much so, that he cannot bear the slightest touch.

℞ Hyd. Chloridi, gr. ij.; Opii, gr. iss. Ft. Pil. statim sumend.

℞ Mist. Morphiæ, ♏xx.; Aq. Distil, ʒj. Ft. haust. hora somni cap. Porter, Oj.

7th.—No better; the surface of the scrotum is becoming of a brownish tinge, and the constitutional irritation is kept up.

Ordered to apply a yeast poultice, and take during the day Porter and Decoct. Cinchona, ℥iss. 4tis horis.

8th.—Has been delirious during the night, wanting to get out of bed; he is very sick; sloughing has commenced in the lower part of the scrotum, and the upper looks as though it will soon be in the same state. Several incisions were made through the whole extent of the scrotum, which relieved the tension.

℞ Vin. Rubri, ʒj. 3tis horis sumend.

9th.—The sloughing is spreading very rapidly; he has constant hiccough, with vomiting.

Cont. Med. et Vin.

10th.—The whole of the scrotum is now gangrenous, and the man lies comatose, and apparently moribund, but the pulse is fuller and better than yesterday, being down to 98.

Ordered to have a large blister at the back of the neck, and a Turpentine Enema. Cont. Vin.

11th.—He is rather more sensible to-day; blister rose well; the sloughing has stopped, having destroyed the greater part of the scrotum.

Rept. Vin., and Brandy, ʒiv.; Beef Tea.

12th.—Better; slept well; bowels rather relaxed.

14th.—Improving; the process of separation has commenced.

℞ Quinin. Disulph. gr. iss.; Tr. Card. Comp. ʒj.; Aquæ, ʒj. Ft. haust. ter die sumend. Full diet, Porter Oij. daily.

20th.—The greater portion of the slough has come away, leaving the testicle exposed on the left side; going on well; appetite good; sleeps well.

26th.—Doing well.

July 4th.—Going on well; the wound gradually closing over the testicle, but the hydrocele on the right side remains as before the injury.

28th.—The man has been gradually gaining strength, and the wound healing, and will leave the hospital in a few days, it being determined to leave the hydrocele alone for a short time.

Remarks.—The preceding case is one of a class which in their treatment require particular attention to one point, viz. keeping up the strength. The patient was accustomed to drink fifteen or sixteen pints of beer daily, and the want of that stimulus even for forty-eight hours materially aggravated the mischief. The blow had not occasioned any apparent injury to the testicle, neither had it produced excessive pain, but there was reason to think that it had caused the rupture of the tunica vaginalis, and that the condition of the scrotum was mainly owing to the escape of the hydrocele fluid into the cellular tissue of the scrotum. Supposing that to be a correct view of the case, we had expected the hydrocele to be cured; but it was soon evident that the probably ruptured sac, and the great mischief set up around it, were not likely to effect a cure. In some cases of dropsy a cure has followed the rupture of the sac—in many cases even needle punctures will serve to empty the sac of the hydrocele—but in this case neither of these results was obtained. At the time of his discharge, Mr. Phillips thought it prudent to let the hydrocele remain for a few weeks, lest, in the event of its being injected, the inflammatory action then set up might provoke further mischief in the scrotum.

ACUTE GLANDERS FOLLOWING A BITE BY A HORSE.

By M. Landouzy.

A vine-grower, fifteen days after buying a horse in July 1843, perceived that it was labouring under glanders. The disease was communicated to an ass living in the same stable. In order to make the horse take the drinks, the proprietor used to open his jaws with the help of a rope. One day the rope broke, and the jaws closing suddenly, he received a bite on his cheek. On the 20th of December, being two days after this, symptoms of acute glanders manifested themselves. A pustular eruption, abundant discharge from the nares, dyspnœa, diminution of the respiratory murmur, abscesses, &c.; and in addition to these symptoms, there appeared one that has not yet been described—opacity of the cornea.

The man died on the 2d of January. At the autopsy an abundant eruption was found on the thorax and the abdomen: the bronchi were covered by a miliary eruption; the lung was filled with abscesses; the liver and spleen were evidently increased in size; in the intestines there was a miliary eruption above and below the cæcum, and in the cæcum seven ulcerations, a lesion that has not yet been mentioned. The principal features of interest which the case presents are, its inoculation by a bite, the opacity of the cornea, and the ulcerations of the cæcum.

M. Barthelemy remarked, that the horse had been five months ill, and that, consequently, as the case was one of acute glanders, communicated by a bite from an animal chronically diseased, the distinction which some persons had attempted to establish between acute and chronic glanders was not warranted."—*Veterinarian*, Sept. 1844.

APOTHECARIES' HALL.

Gentlemen who have obtained Certificates, Sept. 5.—John Fox Cartner, Oakhill, near Shepton-Mallett, Somerset.—Samuel Davis, London.

MORTALITY of the METROPOLIS.

Deaths from all causes registered in the week ending Saturday, August 31.

Dropsy, Cancer, Diseases of Uncertain Seat	85
Diseases of the Brain, Nerves, and Senses	119
Diseases of Lungs and Organs of Respiration	196
Diseases of the Heart and Blood-vessels	23
Diseases of Stomach, Organs of Digestion, &c.	65
Diseases of the Kidneys, &c.	6
Childbed	5
Paramenia	0
Ovarian Dropsy	0
Disease of Uterus, &c.	3
Arthritis	0
Rheumatism	3
Diseases of Joints, &c.	3
Carbuncle	0
Phlegmon	0
Ulcer	0
Fistula	0
Diseases of Skin, &c.	0
Old Age or Natural Decay	39
Deaths by Violence, Privation, &c.	26
Small Pox	36
Measles	21
Scarlatina	82
Hooping Cough	12
Croup	7
Thrush	8
Diarrhœa	23
Dysentery	3
Cholera	5
Influenza	0
Ague	1
Remittent Fever	1
Typhus	21
Erysipelas	3
Syphilis	2
Hydrophobia	0
Causes not specified	0
Deaths from all Causes	798

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LECTURES

ON THE

NATURE AND TREATMENT OF DEFORMITIES,

Delivered at the Orthopædic Institution, Bloomsbury Square.

By R. W. Tamplin, F.R.C.S.E.
Surgeon to the Institution.

Talipes Varus.

In my last lecture I was engaged in pointing out the characters of talipes equinus, and showed that the deformity consisted essentially in a contraction of the gastrocnemius muscle, that it arose from local as well as from general causes, and that in the latter case paralysis would be found very frequently co-existing; that in the local form, although paralysis of the flexors might not be present, yet that the resistance to the reposition of the foot was more obstinate, and the restoration of the extremity to its natural state more tedious, difficult, and painful; that occasionally, during the progress of flexion, the foot might deviate to one or the other side from a contraction of the peronei, or of the anterior or posterior tibial tendons, which contraction appears to be the result of habitual position, rather than of any disturbance in the nerves supplying the muscles*.

I stated that the temperature of the entire limb during the treatment is occasionally much reduced, so that it becomes very necessary to pay attention to this, as, by neglecting the temperature, comparatively slight pressure will often produce a slough, and then a wound, tedious and troublesome to heal, and during the open state of which it will be necessary to suspend the treatment. You can, however, maintain the foot in the position to which it has been brought, by the continued application of a splint well padded: although you cannot advance, you may at all events prevent any relapse. As soon as the wound is healed you will, of course, recommence extension. In cases where I have had to encounter these sloughs, I have found the best method of treatment to be, to support the foot entirely by means of strapping: you thus prevent the weakened capillaries from becoming over distended; and if the vitality is not completely gone, the part will recover itself. And even should the vitality be destroyed, the threatened slough will frequently dry up and terminate without any open wound. An instance illustrating this occurred some time since in a case of paralytic contraction of the foot and knee of a girl a patient in the institution. After some days' treatment, during which time the patient did not complain of the smallest amount of pain, I noticed an ecchymosis on the great toe; and on removing the instrument, found a black spot on the instep the size of a five-shilling piece. I immediately strapped the foot from the toes to the ankle-joint, and supported the entire limb with a flannel bandage. No pain or inconvenience followed, and for fourteen days it was allowed to remain. From some cause which it is unnecessary to mention, the strapping was removed; the black colour,

* I would here observe, that I have no belief in the "inherent irritability" of muscular fibre; nor do I considerthe contraction of muscle after death any evidence of such inherent irritability. Doubtless the muscle is freely supplied with nerves, and those nerves divide and redivide and anastomose freely in every direction, but it is the irritation of these muscular nervous fibres, and that only, in my opinion, which occasions the contraction of the muscle. But this is not, to my mind, to be considered as muscular irritability, but an irritability of the nerves ramifying in and supplying the muscle; this irritability, as a natural consequence, affecting the muscle itself. It behoves us to be cautious in assenting to this or that doctrine without conclusive proof, as by so doing we may mislead ourselves, and place an obstacle in the way of treatment from a wrong impression as to the cause of the disease.

it was found, had entirely disappeared, and the part which was threatened with sphacelus presented a darkish red gelatinous appearance, with vessels ramifying through it, the surface being continuous with the healthy structure. Flour was now applied to the injured surface, and the extremity was covered with flannel bandages, the strapping being omitted. In the course of three or four hours the foot and leg became immensely swollen, red, and painful, having the acute erysipelatous appearance. The removal of the strapping had completely interrupted the restorative process, by withdrawing the uniform support. The capillaries, already weakened by the paralytic condition of the limb, immediately gave way, and became unable to carry on the circulation, from their dilated and over-distended condition, so that a complete stricture, like that which would have followed the application of a ligature, was formed entirely round the injured part, whereby its vitality was entirely destroyed: the part reassumed its black appearance, the slow process of separation followed, and a large wound was the result, which occupied some weeks in healing. The case, however, was very instructive, as it clearly illustrated the weakened condition of the capillary vessels, and the impossibility of the circulation when at all excited being carried on in parts having the low state of vitality which is frequently found to exist along with paralytic affections.

The consequences of removing the support afforded by the strapping in this case was a sort of self-strangulation of the part: the weakened and dilated capillaries could not withstand the full force of the heart; they became over distended, the blood stagnated in their channels, and the part died from want of a due supply of the vivifying fluid, the blood. I would advise, therefore, that in all cases of this kind recourse should be had to the uniform and constant support afforded by strapping. A bandage, however carefully applied, will not effectually render the absolutely necessary, uniform, and constant support which is attained by strapping. It is well to apply a bandage over the strapping, as it serves to preserve the temperature of the limb. I directed your observation to the necessity of applying a boot and suitable support as soon as the foot was sufficiently flexed, which support must be continued until the weakened muscles have regained sufficient strength to prevent the chance of a relapse. The boot will frequently be necessary for years, as in the case related by Delpech: it is a great comfort to the patient, and does not interfere with the motions of the joint, nor will the slightest ulterior inconvenience arise from its use.

I now proceed to consider particularly that species of deformity called talipes varus. By talipes varus is understood that kind of deformity which consists, 1stly, in the elevation of the heel, from contraction of the gastrocnemius; 2dly, in the adduction and semirotation of the anterior portion of the foot by the contraction of the anterior and posterior tibial tendons; 3dly, in a shortened condition of the sole, occasioned, 1stly, by the adduction of the foot; 2dly, by the contraction of the plantar fascia, muscles, and ligaments of the sole. In adults you will find also a great increase of the lateral or transverse arch of the foot, which has been brought on by the constant pressure of the weight of the body, in walking on the outer and dorsal surface of the fifth metatarsal bone, which thus becomes approximated to the metatarsal bone of the great toe (vide fig. 2). You will then find the os scaphoides approximated to the internal malleolus, and separated from the external anterior side of the surface of the astragalus. The os cuboides, again, is separated on its outer aspect from the os calcis, and closely pressed on its internal side to the inner edge of the articular surface of the os calcis, and also of the external portion of the anterior articular surface of the astragalus; this being the principal change caused by the adduction of the foot. We have also the almost perpendicular position of the os calcis, as in the talipes equinus, and the oblique position of the astragalus. The fourth and fifth metatarsal bones will also be found separated slightly from the outer side of their articulation with the os cuboides, but the principal change of position is between the astragalus and os scaphoides, and the os calcis and cuboid bone. The anterior portion of the foot remains very nearly in its natural relative position, at least so far as the position of the bones is concerned. The calcaneo-cuboid ligament becomes stretched on its outer portion, and contracted on the inner. The calcaneo-scaphoid ligament is also stretched. The superior and external calcaneo-cuboid will likewise be found elongated. The internal lateral or deltoid ligament is contracted. Of course the other ligaments are all more or less changed from their natural length and position, but those particularly mentioned are the most important. In the increase of the transverse arch of the foot in the adult deformity, you will find the transverse bands contracted, and offering a powerful resistance. The muscles which are contracted, and the immediate cause of the malposition, are, 1st, the gastrocnemius, 2d, the adductors direct, viz. the anterior and posterior tibial, the extensor and flexor of the great toe, as well as the extensor and flexor communis indirectly. The peronei are elongated, or rather kept upon the stretch. The contraction of the ligaments does not apply to infants, but becomes so

Fig. 1.



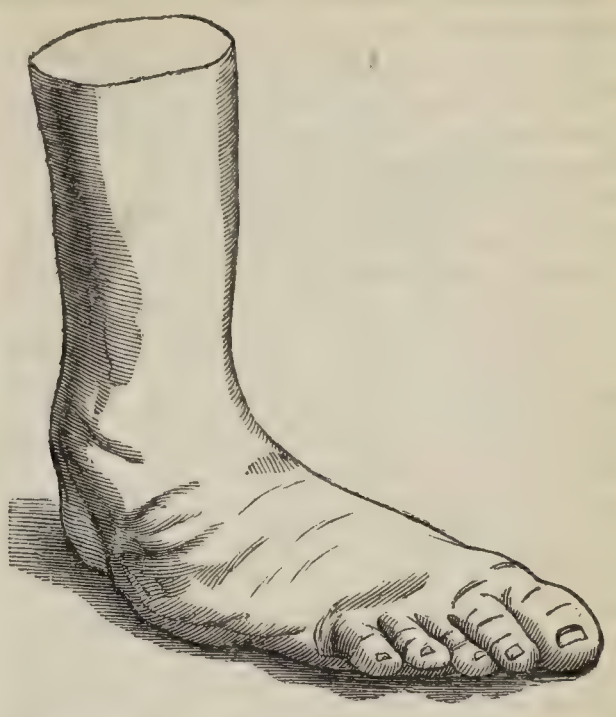
An illustration of the most severe form of talipes varus, in the adult, taken from the cast of a patient æt. 24.

Fig. 2.



The posterior aspect of the above figure; *a*. illustrating the approximation of the metatarsal bone to the metatarsal bone of the great toe, from the constant pressure occasioned by the weight of the body.

Fig. 3.



The cast of figs. 1 and 2, after the treatment, which occupied ten months, in which the remnant of the cushion on which the patient formerly trod is conspicuous.

from position. This deformity is both congenital and non-congenital; but in a large proportion it is the most common form of congenital deformity. In the congenital you will find no paralysis; in the non-congenital, paralysis of one or more muscles will very generally be found; and this applies to almost every non-congenital deformity. I have never seen a congenital paralytic affection of any of the muscles in any deformity, nor do I believe that it exists. In the infant you will find the size of the affected limb correspond with that of the well-formed and perfectly proportioned one; but of course, as the child grows, the foot remaining in its false position, and the play of the muscles in that foot being most limited, the muscles, as a natural consequence, become developed but very slowly; and as the child continues to grow, the limb presents the appearance of an atrophied extremity, the natural outline of well-developed muscles being entirely absent; and yet all this arises entirely from want of use, as no paralysis exists, nor any loss of the voluntary power. The temperature of the limb is natural, but the foot does not resist the effect of cold so well as the naturally-placed foot; but this, I imagine, is entirely owing to its passive condition, and not from any diminished nervous power, or loss of its proper tone; as it is not merely the motion of the ankle-joint that is limited, the muscles which move it are of necessity scarcely if at all able to perform their functions.

There will be found in the adult, and at all periods from the time the patient begins to walk, more or less thickening and induration of the cellular tissue, corresponding to the point or points of pressure, which increases the deformed appearance. In the infant you have the round and natural appearance without any addition to the deformity occasioned by contraction of muscles; and upon examining it you find the anterior portion of the foot entirely perfect (vide fig. 4), and that with some little force, oftentimes, indeed, without any, you will be enabled, by *adduction* simply, to place the foot in a straight line with the tibia and fibula, there being no increase of the transverse arch. Occasionally, but very rarely, I have found the plantar fascia decidedly contracted; and this contraction must have existed some time previous to birth, as the skin will be

found drawn in: this is, however, the exception, not the rule.

The causes of talipes varus (congenital) are supposed by some to arise from mental impressions, or some sudden fright occurring during pregnancy; others think it proceeds from irritation or disease of the brain, its membranes, or spinal chord. Others have supposed that *position in utero* has produced it. It is true, the mother will, in the majority of cases, assign it to some impression or fright; but this appears to me exceedingly questionable and doubtful, as there is scarcely a pregnant woman who during pregnancy, at one time or another, does not receive some fright, and the proportion of deformities as compared with the number born is very small. Again, very frequently the mother will tell you she can imagine nothing nor recollect anything which could have produced the deformity. On the books of this institution many cases of this kind will be found; and then nothing is more common than for patients in general illness being perfectly satisfied that they are aware of the cause of their illness, however wide they may be from the actual fact; so natural is it for the timid to endeavour thus to satisfy themselves. We cannot therefore place much, if any, dependence on these theories. With regard to the brain or nerves of the fœtus being diseased, and thus occasioning it, on this I am also sceptical, for there is not a shadow of proof that such has ever been the case. In the first place, the contracted muscles are not in a state of spasm, neither are those on the outside of the foot paralysed or deficient in any respect, more than this, that the adductors have the preponderance, and the abductors have not the power to overcome the adductors; but place the foot in its proper position and you will find that the peroneii will hold it out, and during volition evert the foot. The muscles producing the deformity are certainly contracted, but there is no evidence of any irregular action. The patient can at all times exercise the steady well-directed action of the muscles, even in varus, so far as the deformity will allow; and the foot remains perfectly quiet in the absence of the voluntary effort. Direct a boy or adult afflicted with varus to draw up his foot (which we frequently do in order to facilitate the operation), and you will find it is done instantly; direct him also to evert it, and place your hand on the peronei, and you will find them instantly contract, although he may not possess, and does not possess, the power of everting the foot in the least, because of the confirmed malposition. Again, it is a singular fact that at whatever age the patient may be suffering from talipes varus, neither the contracted muscles nor those extended, and which have been extended for years, suffer in the slightest degree beyond their want of development consequent upon their want of exercise. This would not be the case if there was any disease of the nerves or their centres. Again, take the non-congenital deformity, when the disease or irritation of the brain or spinal chord has been the cause producing paralysis, do we find that we can control or remove the loss of power? Certainly not; it continues; and at present we know of no remedy for complete paralysis, the muscle itself wasting and degenerating into a sort of fatty condition. There are cases where paralysis has been the first symptom, and deformity the result; where every muscle will be found to have recovered itself, and after the restoration of the foot into its position will by exercise maintain the motions of the foot; but this is the exception, not the rule. Whereas in congenital deformity it is quite the reverse, and I have never, as I have before stated, witnessed a *congenital paralytic* condition. I cannot therefore place any faith in the opinion that the malposition arises from such a cause. Lastly, as regards the position in utero: this, I think, the most probable cause, although we can have no proof beyond the fact, that in some of the varieties of non-congenital deformity, position appears to favour contraction, and in my opinion certainly does so; even in cases, you will observe, where the muscles have possessed their power, and have been for years fulfilling their natural functions, yet from being kept in one position they became contracted in that position without any (so called) structural shortening; even the passive organs of the joints themselves become contracted from position without any change in their healthy condition, or, in my opinion, actual shortening. How much more likely should we consider it that a muscle should become fixed and contracted in the position in which it has been kept for a longer or shorter period; therefore, so far as I can judge, I certainly am inclined to regard the exciting cause of the deformity as arising from the position in utero. But we have as yet no proof of this being the fact, and I fear it is not likely we shall find indisputable evidence to establish it.

Patients afflicted with varus have not, as you must perceive, any motions available for walking, in the ankle-joint. They are, therefore, compelled to walk with a perfectly stiff limb below the knee, and the sole of the foot is turned backwards off the ground (vide fig. 2), whilst the dorsum is placed directly forwards (vide fig. 1), the inner portion being elevated, and the anterior portion, including the phalanges, metatarsus, and tarsus, being at right angles with the os calcis, astragalus, and ankle-joint (vide figs. 1 & 2); hence the peculiar appearance and hideous deformity which these unfortunate objects present in walking,

by the anterior portion of one foot being carried over the other during the act of progression, in double varus. In the majority of cases you will find double varus to exist; there are, however, a great number of cases where only one foot is affected. The pain and inconvenience experienced by the patient are frequently very great, from the constant pressure on one point, and that point being an artificial one, whereby inflammation occasionally is set up in the cushion formed by nature to protect the bones, and is followed by suppuration, and a tedious wound, during the healing of which the patient is totally prevented from using the limb. Even after the wound is healed great pain and tenderness are experienced, in consequence of the pressure then becoming directed on the bones themselves: the protecting matter having suppurated, has left them, comparatively speaking, exposed. At all times a great degree of lameness and stiffness in walking is the result; and yet many walk miles during the day with comparatively little inconvenience. Cases even occur among persons who are compelled to obtain their existence by their daily labour, but most of these unfortunate creatures follow some sedentary occupation, such as that of a tailor or shoemaker; still we have had one or two instances of agricultural labourers suffering under this affliction, who have been compelled, from the nature of their occupation, to be on their legs from morning till night, and who have not been prevented from following their duties. Occasionally they suffer during the winter from the effect of cold, in the shape of chilblains, but not, I think, more than others do who are not thus afflicted (at least the congenital.) The limb below the knee will be found much wasted; but although this is the case, yet the muscles still retain their healthy character; the demity also affects the development of the muscles of the entire extremity, as may be observed in the instances of single varus.

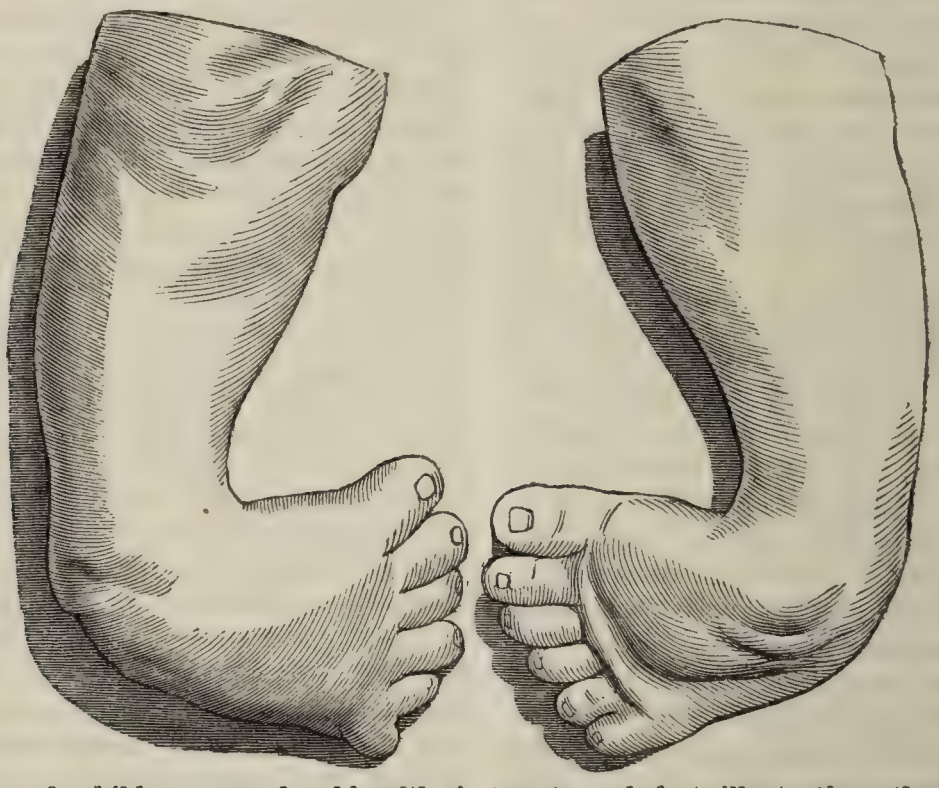
Congenital varus very generally exists without any additional deformity, but cases will be met with in which the knee is also contracted, and in which some irregularity also exists, such as an actual deficiency and malformation, and supernumerary toes, (vide fig. 4). In this case the child had six toes on each foot, and five fingers on each hand, but this does not appear to occur more frequently in cases of varus than it does without any malposition of the extremities. Occasionally there will be found a relaxed state of the ligaments of the knee, which admit of a sort of rotatory motion, the tibia on the femur, which gives an additional amount of severity in the appearance of the deformity, the foot appearing to be *rotated* more inwards. This will require attention in the after-treatment. I have seen some few instances of incipient lateral curvature of the spine, in children afflicted with single varus, from the excessive motion kept up in the vertebral column from the lameness of one extremity. This increase of mobility between the vertebræ will be found to terminate occasionally in lateral curvature, provided the deformity is not removed, and the motions of both limbs made to correspond with each other. This applies to lameness of one or other lower extremity, from whatever cause such lameness may arise.

Cases of varus will be met with in every amount of severity, both in the infant as well as in the adult. In the former the increased severity arises from a more complete and rigid contraction of the muscles alone, whilst in the latter the rigidity will be found to exist in the muscles; and, secondly, by far the most obstinate resistance will be found in the passive attachment of the bones and joints, viz. the ligaments. In the infant, you will be enabled frequently, with but little force, to place the foot in its natural position, and it will return to its contracted state but slowly, and in some cases the foot occasionally assumes its natural position, but seems to invert itself slightly when the muscles are acting. In others a fixed contraction appears to exist, so that after you have abducted the foot it will return by an elastic impulse to its false position, but this depending on the amount of the muscular contraction. In the case I mentioned in my first lecture the contraction was complete previous to the operation, yet upon examining the tendons a linear cicatrix could be detected, and that only after maceration, and then very imperfectly. And yet the foot was held and maintained in its natural position, and the little patient up to the time of its illness could use it freely in that position.

I have never witnessed any spasm in true varus simply, nor do I think it does exist. The return of the foot to its false position after it has been forcibly held out is not the result of *spasm*, but of the return of the muscles to its contracted position which has thus been forcibly drawn out. Again, where is the evidence of spasm after the cure is effected, when the patient possesses the voluntary movements, and freely exercises them? In fact, as far as my observation goes, there is no diseased or unhealthy action of the muscles contracted. In the adult, and during the period of youth, you will also meet with the deformity in every amount of severity. In some cases a great amount of motion will be found on any attempt to abduct the foot; in others will be found the most firm and unyielding resistance, which appears to depend considerably on the health and constitution of the patient, more so than on the

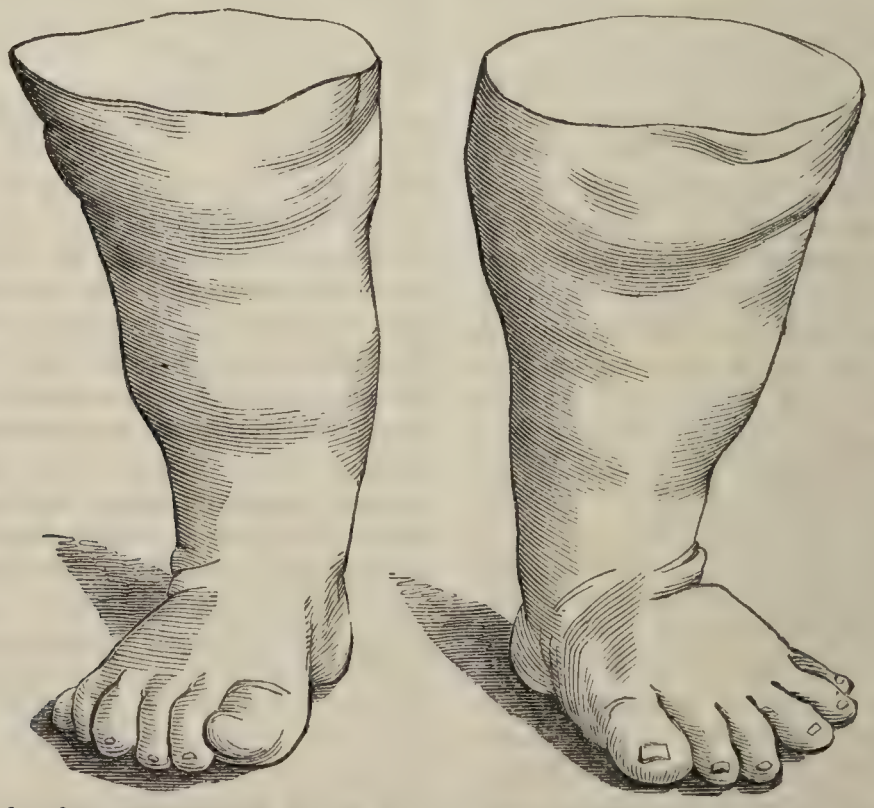
occupation they may have followed. One of the most severe cases we have had in this Charity, and which was the longest under treatment, was that of a female 24 years of age, of which figs. 1, 2, and 3, are from the cast. But it must be borne in mind that the increased severity in an infant is dependent solely on the greater amount of contraction in the muscles themselves; not so, however, in the adult. In these, the severity will be greatly increased by the contraction of ligaments, from position, in the muscles, as well as the tone of the ligaments and parts themselves; for the more robust the health of the individual (as a rule) the more firm and dense the resistance. You have also the additional deformity in the transverse arch of the foot in the adult, which is occasioned by the pressure of the weight of the body, to which the infant is not subjected, and which is no slight obstacle. (Vide fig. 2.)

Fig. 4.



Talipes varus of a child seven weeks old, with six toes to each foot, illustrating the round and uniform appearance of the foot, when not subjected to the pressure occasioned by the weight of the body.

Fig. 5.



The casts of the feet represented in fig. 4, seven weeks after the operation; the little patient possessing free voluntary motion. The anterior and posterior tibial tendons, and the tendo-Achilles, were divided in each.

ON THE

PHYSIOLOGICAL CHEMISTRY OF PROTEINE AND ITS COMPOUNDS.

By Professor Mulder, of Utrecht.

Translated from the Dutch,

By James Paget,
Lecturer on Physiology, &c., at St. Bartholomew's Hospital.

(*For the Medical Gazette.*)

Whatever is written upon proteine by its discoverer will command attention, and the account of it which is here translated* appears to me both more complete and more compact than any other I have seen. But it is not only for the facts which it contains that it may be read with profit,—another and perhaps greater value is given to it by its enforcing, with the authority of one of the first analysts of the present day, the necessity of a more minute examination of those organic substances which we are apt to regard as having been already thoroughly investigated. Mulder, it is evident, considers his own knowledge of the physiology of the proteine-compounds to be very imperfect; yet their chemical formulæ are often used as if they were as sure as the surest facts. The principle which he holds of the importance of the small and various quantities of sulphur, phosphorus, and other substances, in the several compounds, is (it need hardly be said) identical with that which Dr. Prout has maintained in regard to all those which he has classed as *incidental elements.* It would be opposed to the analogy of all we know of the delicacy and exactness with which the component parts and substances of living beings are adapted to their purposes, if it were to be proved that these elements are not influential in determining the properties and functions of the particles into the composition of which they enter; or that the proportions in which these elements are combined with the four others, however small, are unimportant. Rather, it is probable that the differences of composition in organic bodies by which differences of mutual action are determined, are far more minute than any art of chemistry at present reached can detect. When, for example, we find a morbid material in the blood, combining with or destroying one portion of a tissue, and leaving unaltered another portion by its side, which to all the powers of observation which we possess appears the very same in all its properties, we ought to be ready to believe that one living organic substance tests the properties of another with a delicacy which is not yet nearly attained by art.

The art by which it may be attained has not among its professors any more eminent than Mulder, nor one more likely to lead others to their own reputation. I trust, therefore, that this translation (which I have in nearly every part made as literally as possible) may be acceptable to those students of physiological chemistry to whom the work from which it is taken is not accessible. J. P.

A substance occurs in plants as well as in animals, which is prepared by the former, and imparted in their food to the latter, and is of unlimited importance in both the vegetable and the animal body. It is one of the most complex substances; under various circumstances it very easily changes its composition, and it is thus a source of chemical change, especially in the animal organism. It is, beyond contradiction, the most important of all the known substances of the organic kingdom; without it, life, apparently, could not subsist upon our planet; by it the most important phenomena of life are brought to pass.

It occurs in various parts of plants,—in roots, stems, leaves, fruits, and in the juices of all these; it is found in very dissimilar parts of animals. In plants, it is present in three different forms, namely, soluble in water, insoluble in water, and soluble in alcohol; in animals, it exists in various conditions, being either soluble or insoluble in water, and, in the latter case, of various structure. It enters into various combinations with sulphur, or with phosphorus, or with both, and, hence presents as many differences in appearance and physical qualities. It is named *proteine*, because it gives origin to very dissimilar objects, and is thus a primary substance.

We obtain this substance in the form of greyish-white flocculi, by dissolving boiled white of egg in a weak caustic-alkaline solution, and then, by

* From the "Proeve eener Algemene Physiologische Schekunde," door G. J. Mulder, Hoogleerar te Utrecht. St. IV. pp. 312-344.

adding an acid, neutralizing the solution. It is obtained also by dissolving grain-flour, after it has been kneaded under water and freed from starch, in a similar weak solution, and adding an acid till the alkali is neutralized.

We find proteine in the saps of plants —in all, without distinction; it is found even in the young parts of the roots, and therefore, like cellulose, it is among the substances which are formed immediately from the food of plants. Whether it is also formed in other parts of the plant is not proved; but since the youngest radicles, together with cellulose, contain proteine-compounds, it may be conveyed from them through the whole plant; and to this end its being easily soluble in water may contribute. But, on the other hand, it may pass into the solid form, and being thus deposited in the cells of the plant, may fill them, and form some of its solid constituent parts. In this form we find it in many seeds, of which it may constitute the chief mass. It is in them precipitated proteine formed elsewhere, probably at the extremities of the radicles, and originally existing in solution in the sap of the plant.

This precipitation of proteine in the solid state in certain groups of cells in plants may take place by a simple process. Acids, for instance, change it from soluble to insoluble proteine; and thus the simple presence of an acid is sufficient for this metamorphosis. On the other hand, the insoluble proteine may be redissolved by alkalies; and therefore, after it has been deposited any where in the solid form in cells, the addition of an alkaline fluid may suffice to carry it elsewhere.

Some saps are, by the large quantity of proteine-compounds which they contain, milk-white; in all, for the same reason, a turbidness is produced by heat. In combination with fat oils and water they form emulsions. They are combined with sulphur and phosphorus, bases and salts. . . . . .

That proteine pre-exists in the plants, and is not produced by the action of the weak ley which is employed for its separation, no impartial observer can either doubt or deny. In the first place, the compounds of proteine which are found in plants have properties all of which completely agree with those of proteine itself, if we except those properties which belong to the substances which are combined with the proteine. Vegetable albumen, for example, a compound of proteine with sulphur and phosphorus, has all its properties in common with proteine, those only excepted which belong to sulphur and phosphorus; and if we add to this that the per centage composition of proteine and albumen is the same, provided we take away the sulphur and phosphorus which are combined with the latter, the pre-existence of proteine in plants cannot be a matter of doubt.

The formula of proteine, calculated from its analysis, as well as from various combinations into which it enters with acids, is $C_{40}\,A_{62}\,N_{10}\,O_{12}$*.

In plants proteine occurs combined with sulphur and phosphorus; but how they are combined is not yet known. These compounds were formerly named *soluble albuminous matter*, *coagulated albuminous matter*, *legumine*, and *vegetable gluten*; names of which the first three have been changed by Liebig into those of *vegetable albumen*, *vegetable fibrine*, and *vegetable caseine*. These names, to be good, ought to be founded on the conformity of these three substances with three proteine compounds of the animal kingdom — albumen, fibrine, and caseine; but this conformity is not proved. The small quantities of sulphur and phosphorus by which these last differ from each other and from pure proteine determine their character. And since the quantities of sulphur and phosphorus in the three first-named vegetable substances are as yet unknown; one cannot use these names for them. Moreover, coagulated vegetable albuminous matter and legumine differ

* Mulder gives here only the results of his analyses; they are fully detailed in his original paper on proteine in the Netherlands Bulletin des Sciences, 1838; and an account of them is given in Simon's Handbuch der Medizinischen Chemie, Bd. i. S. 41, &c. I have not reduced Mulder's formulæ to those by which the composition of the same substances would be represented according to the equivalent numbers more commonly adopted in this country, because, had I done so, some of his calculations would appear erroneous. He takes for the equivalent of oxygen 100; that of carbon, the basis of his other estimates, he makes 76·437, which, on the hydrogen-unit scale, would be 6·115; and those of hydrogen and nitrogen 6·24 and 88·36; water being represented by the formula H_2O. From these data the reader may reduce the formulæ to his own mode of calculating. If carbon be taken at 75 (or 6 on the hydrogen-unit scale) the number of equivalents of hydrogen in the formula for proteine will be, as Simon gives it, 60 instead of 62.

so much in form and appearance from animal fibrine and caseine, that they cannot be called even by names of the same kind. We continue therefore, till the identity of these substances is proved, to call *legumine* the substance which is obtained in white flocculi from peas and beans, when, after they have been ground fine and treated with warm water, the solution has been filtered and precipitated by an acid. *Vegetable albuminous matter* we name the substance which is soluble in water, precipitable from saps by heat, alcohol, and acids, soluble in weak alkalies, and precipitable from its alkaline solutions by acids; and which, setting aside the sulphur and phosphorus, presents itself on analysis as proteine. *Coagulated vegetable albuminous matter* is the compound of proteine, sulphur, and phosphorus, which is insoluble in water, and occurs in seeds, *e. g.* in those of the cerealia, in almonds, &c. *Vegetable gluten* is the substance which can be extracted from raw gluten by alcohol. The formula of vegetable gluten from wheat is $10\,(C_{40}\,H_{62}\,N_{10}\,S_{12})\,S_2$*.

It was proved that the chief constituent of the animal body is prepared by plants, and that animal fibrine, albumen, and caseine, differ only by small quantities of sulphur and phosphorus, and when similarly treated with alkalies yield the same proteine as coagulated vegetable albuminous matter; and Liebig has more lately found a similar agreement between the four vegetable substances just mentioned, deduced from the quantities of carbon, hydrogen, and nitrogen, which they yield in elementary analysis. By these analyses it is determined that all these substances are proteine-compounds; but there is still much wanting for a complete knowledge of them. In every case they contain proteine compounds, which, transferred into the animal body, convey the proteine unaltered; so that what digestion has to alter in these substances to make animal substances from them, consists first in the solution of the insoluble vegetable albuminous matter and vegetable gluten, and then in the changing of the quantities of sulphur and phosphorus, which are probably different in the vegetable proteine compounds from what they are in the animal. . . . . .

Vegetable gluten and coagulated vegetable albuminous matter are obtained by kneading wheat-flour under water to remove the starch, and when this is sufficiently accomplished, by treating what remains with alcohol. What now remains undissolved is the so-called coagulated vegetable albuminous matter, still containing starch, from which it may be freed by boiling in water. Further, it contains cellulose. If therefore it be in this state subjected to elementary analysis, we obtain the results of an analysis of a mixture of vegetable albumen and cellulose. Jones has on this account obtained too little carbon in his analysis* of his substance thus prepared. But there is no other means of separating the cellulose and vegetable albumen in this mixture besides that of changing the albumen into proteine, that is, by removing the sulphur and phosphorus which are in the albumen, or, in other words, by separating them from the proteine, by their combination with which the vegetable albumen is formed. This is effected by potash: a weak ley dissolves the proteine out of the mixture already mentioned, oxydizes the phosphorus, forms with the sulphur sulphuret of potassium, and leaves the cellulose undissolved; then, if a weak acid be added to the clear solution, proteine is precipitated. But no means are known for obtaining pure coagulated vegetable albumen. In all the seeds in which it occurs it is mixed with cellulose, for which no solvent is known which would leave the albumen; and if the albumen be dissolved, so as to leave the cellulose, the albumen is changed into proteine. Pure coagulated vegetable albuminous matter (the pure vegetable fibrine of Liebig) is thus as yet unknown, and we know not how large is the quantity

* This is deduced from analyses very recently published by Mulder (Scheikundige Onderzoekingen, Deel. ii.) The results of two analyses gave—

	I.	II.	Equiv.	Calculated.
C	54·93	54·75	400	54·89
H	7·11	6·99	620	6·94
N	15·71	15·71	100	15·90
O	21·68	21·93	120	21·55
S	0·57	0·62	2	0·72

Among former analyses, those of Dr. Bence Jones, in Liebig's Organic Chemistry, &c. p. 295, most nearly agree with these. These also, like Dr. Jones's, were made from the portion of raw gluten which is soluble in alcohol; but in his formula the sulphur is put down with the oxygen, and the proportion of hydrogen is importantly higher.

* The analysis of vegetable fibrine may be found in Liebig (*l. c.*) p. 294.

of sulphur and phosphorus combined with the proteine. . . . . .

That portion of the substance remaining after the kneading of wheat-flour in water, which is soluble in alcohol, is named *vegetable gluten*. It precipitates from the alcohol when it cools, or on adding water, in white flocculi; but another portion, combined with gum, remains dissolved in the weak alcohol, even when it is diluted with a considerable proportion of water. It is, when moist, very tenacious, tough, and elastic; when dry, it is a semi-transparent substance, very hard, difficult to pulverize, insoluble in water, and partaking of all the properties of the compounds of proteine with sulphur.

It is probable that this compound is not a pure chemical body; at any rate, when we treat it with acetic acid, it nearly all dissolves, but there remains a small quantity of some substance which is insoluble in acetic acid, which makes the solution turbid, and cannot be separated by filtration. Our knowledge, therefore, of the true nature of vegetable gluten is incomplete, although we know that it is a sulphur-proteine-compound.

Vegetable albumen occurs in plants with properties similar to those which we find in the animal albumen in the serum, in eggs, and a number of other substances. Every fresh vegetable sap yields it, on being heated, as a coagulum. This is the form in which it is, in the first instance, prepared in plants, and from which, without doubt, the other proteine compounds of plants (the coagulated albuminous matter, &c.) take their origin. Coagulated by heat from saps, it incloses chlorophyll and other substances. It is obtained pure from wheat flour by heating the water in which the flour has been kneaded, and the starch has fallen to the bottom. Albumen then coagulates, and, after being boiled with water and alcohol, is pure vegetable albumen. Its constituents (leaving out the sulphur and phosphorus, which are not yet determined) are exactly the same as those of animal albumen.

Legumine is a substance bordering on gluten, which is especially obtained from peas and beans. When flour made from either of them is allowed to steep in water, legumine is dissolved, and may be precipitated by an acid. The solution in which it is dissolved has an acid reaction; freed of this, it is insoluble in water. After being dissolved in ammonia, and precipitated from the solution by an acid, and then treated with alcohol, it is pure, and a proteine compound; but what, we know not. . . . . .

From this short account of the four proteine-compounds at present known in plants, it follows that there are two which are soluble in cold water, viz. albuminous matter and legumine, of which the former is, the latter is not, coagulated by heating its solution; and that there are two others which are insoluble in water, viz. the so-called coagulated albuminous matter and the vegetable gluten, which last is dissolved in alcohol.

Similar substances are also found in the animal body, differing from one another by small ingredients and combinations. As legumine and vegetable gluten differ from vegetable albumen, so also does caseine differ from animal albumen. There is not more than an approximation in properties and composition between these substances; and we are ignorant of their essential composition, so long as the small ingredients are unknown to us.

The known proteine-compounds of the animal body are as follows:—

The fibrine of the blood is composed according to the formula—

$$10\,(C_{40}\,H_{62}\,N_{10}\,O_{12}) + S\,Ph.$$

The albumen of the serum of the blood—

$$10\,(C_{40}\,H_{62}\,N_{10}\,O_{12}) + S_2\,Ph.$$

The albumen of hen's eggs, like fibrine.

The caseine of cow's milk—

$$10\,(C_{40}\,H_{62}\,N_{10}\,O_{12}) + S.$$

The substance which forms the chief constituent of the crystalline lens—

$$15\,(C_{40}\,H_{62}\,N_{10}\,O_{12}) + S^{*}.$$

* These formulæ are calculated from the original analyses published by Mulder in the papers already referred to. The results obtained by Scherer (see Liebig, l. c. p. 310) do not materially differ from Mulder's. Those of Dumas differ considerably (Annales de Chimie et de Physique, t. vi. 1842); but Mulder passes these by as bearing no mark of accuracy. On the analysis of the yolk of egg, freed from oily matter by ether, made by Dr. Bence Jones (Liebig, l. c.), he says, in a note—"It appears to be impure albumen which has been submitted to analysis. And in the difference of results, and especially on account of the small proportion of nitrogen according to the analysis of Jones, repeated analyses of vitelline were necessary. These have been made by Baumhauer. Hard boiled yolks of eggs were treated with ether and alcohol. Dried at 120°

These are the known proteine compounds of the animal body. But we know, besides, with certainty, that the muscular fibres are a proteine compound; that in the brain, liver, kidneys, and many other organs, proteine compounds are met with under the forms of albumen; that a proteine compound is found in horns, nails, cuticle, and hairs; that oysters consist almost entirely of proteine compounds; that silk and spiders' webs also contain one: but what proteine compounds these are is as unknown as it is what compounds the vegetable albuminous matter, the legumen, and the coagulated vegetable albuminous matter are. Science has still to fill up these chasms. Very small quantities of sulphur and phosphorus, and perhaps of other substances besides, may produce the physical and some chemical differences which we observe in all these bodies. We, therefore, do not regard all these substances as identical (although they present on analysis almost the same per centage composition), any more than we consider starch and gum, which by per centage are similarly composed, as the same substance; and yet further, in many of them, we have, by examination, detected differences in the quantity of sulphur and phosphorus, and we must therefore regard most of these substances as chemically essentially different. But they all, without exception, have the same organic compound for their chief constituent; a constituent which pre-exists in all, and which thus permits an easy transition from one to the other.

It is of great importance to observe this, because nature, by combining small ingredients with one and the same radical substance, or by removing them from it, produces many, and apparently very dissimilar, substances. We see here a very remarkable uniformity, and yet we find, in chemical difference, however small the quantities may be, the cause of difference in the nature and quality of the substances. It is, therefore, no polymorphism which gives rise to the differences in the before-mentioned proteine compounds, but essential chemical difference in material composition; and it is, therefore, still a question, to be solved only by the most laborious and careful analyses, wherefore and in what the several proteine compounds differ from one another. Science has to make out not only that a proteine compound occurs in grass, and that the ruminant animals thence derive their proteine compounds, which they daily yield in large quantities in their milk, but it has to be proved whether the proteine compound of grass, as well as that of milk, has sulphur but no phosphorus combined with it; whether the quantities of these ingredients are or are not different, and, if they be, in what way the difference is produced in the animal body. Certain as it is that caseine and albumen are very different from one another, and important as it is to know this difference, so is it indispensable to demonstrate on what the difference depends. The fact that plants prepare the proteine for animals being once known and settled, these questions are amongst the first which it belongs to science to resolve.

I purposely speak emphatically on this subject, because I do not believe that the small quantities of sulphur and phosphorus are indifferent ingredients, but that, on the contrary, these substances play an important part in the organism, albeit they constitute only fractions in the per centage reckoning. It is not the quantity of the substances that are combined which determines the degrees of difference in compounds, but the presence or absence of other bodies. Arseniuretted hydrogen ($H_6 A_2$), one of the most dangerous gases, contains 98·05 of arsenic and only 1·95 of hydrogen; but it is by means of this hydrogen that the gas is not metallic arsenic, and presents its peculiar properties.

[To be continued.]

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they yielded, on an average of two examinations, O 52·97 and H 6·925. A portion of the substance thus prepared was dissolved in acetic acid, the fluid filtered clear, and precipitated by carbonate of ammonia: the precipitate was treated with ether and alcohol. Dried at 120° it gave, on analyses—

	I.		II.
C	53·23	53·26	53·61
H	7·03	7·12	7·29
N	15·97	16·09	16·04
O	23·25	22·75	
S	0.52	0·48	

We shall see below that the substance of which vitelline consists is a sulphuret of bi-oxy-proteine —$C_{40} H_{62} N_{12} O_{14}$. In the second mode of preparation, which gives vitelline free from cellular substance (which the hard boiled yolks of eggs cannot give), a little ammonia appears to have been combined; at any rate, the proportions of hydrogen and nitrogen have come out rather too high.

ON THE SURGICAL TREATMENT OF PHTHISIS PULMONALIS.

To the Editor of the Medical Gazette.

Sir,

When two or more persons residing at a distance from each other happen, about the same time, to arrive at similar conclusions, the rule generally, and most wisely, acted upon is, to assign the chief credit to the individual who first lays his views before the public. In accordance with this maxim, the merit of the discovery of a novel, and, as it appears to me, a very promising, plan of treating cases of advanced phthisis pulmonalis, will be awarded to Dr. Von Herf,* of Darmstadt, who, as I saw by the *Times* newspaper of Monday last, has already carried into effect ideas precisely similar to certain notions which I had previously entertained, and for testing the accuracy of which I had resolved to avail myself of every opportunity that might occur.

As these views, however, were merely entered at the time in a private memorandum book, I shall, in the present communication, do no more than state briefly some of the considerations which suggested themselves to me, as calculated to inspire just grounds of hope in the efficacy of the proposed measure, as a means of mitigating the sufferings and prolonging the existence of those affected with this dreadful disease. And as the question of the propriety of this procedure must shortly engage the attention of the profession in this country, the few rough notes which I made on the subject may possibly, in the present early stage of the inquiry, not be without interest to some of your readers.—I am, sir,

Your obedient servant,

George Robinson.

24, City Road, Sept. 12, 1844.

One great cause of the inability to cure, or even materially to relieve, cases of confirmed phthisis, is to be found in the apparent impracticability of discharging the tubercular and purulent matters in any other manner than through the trachea. For as, from the peculiar nature of their functions, the passage of air to and from the lungs cannot be suspended for the shortest time without instant suffering and speedy danger, so great evil necessarily results to the phthisical patient from the circumstance of the large air-tubes being, at one and the same time, engaged in conveying copious, irritating, semi-solid masses, from the tubercular cavities, and in transmitting a supply of respirable air to the unaffected portions of the organ. Thus

1. The presence, in the air-passages, of these acrid discharges causes frequent and violent fits of coughing, by which the individual's rest and comfort are destroyed, his strength exhausted, and the pulmonary circulation more or less disordered.

2. They excite a sub-acute inflammation of the bronchial tubes, the copious effusion from which still further increases the difficulty of respiration.

3. The accumulated matters must occasionally be brought in contact with the contiguous portions of healthy lung; and, whether considered as simple irritants, or as conveying the exciting cause of a specific morbid action, the effect of their application will inevitably be the gradual disorganization of the surrounding tissues, by the arrest of the circulation through them.

4. It appears to me by no means improbable that the absorption, by the blood-vessels of the healthy lung, of a portion of the semi-putrid matter resulting from the decomposition of the tubercular masses, may not only cause the colliquative diarrhœa and sweating, peculiar to the latter stages of the complaint, but may also induce the formation of similar deposits in other parts of the body, by effecting a change in the blood itself.

These considerations may suffice to show how much the difficulty of curing the disease is augmented by the long, tedious, and inconvenient route along which the expectorated matters have to pass. And I shall now proceed to enumerate some of the reasons which suggest themselves in favour of the plan of making a direct opening from the exterior of the thorax into the ulcer or suppurating cavity.

First in the list must be mentioned the possibility of discovering with to-

* I did not see the *Times* until the second day after its publication; and, though I made a hurried memorandum of the name of this gentleman, I cannot be certain that I have copied it correctly.

lerable certainty, by the stethoscope, the precise situation of the disease.

2. In post-mortem examinations, cicatrices have been found in the lungs; thus establishing the fact of the curability of pulmonary ulcers. And, were it equally accessible, there is no reason why a scrofulous abscess of the lungs should not be as amenable to treatment as one of any other part of the body.

3. The portion of lung affected with tubercular deposit is generally glued by pleuritic inflammation to the corresponding surface of the thorax. And this is perhaps the most important fact that can be adduced in favour of the proposed operation. For, in consequence of this occurrence, not only has the affected part the advantage of rest, but it is also, so to speak, rendered a part of the thoracic wall. Hence, any fluid matter contained within it may escape through an external opening without any danger of passing into the pleural cavity.

4. That a pulmonary fistula may exist for a length of time, and then be cured, without any danger to the individual, is, in addition to other facts on record, fully established by two cases related by Le Dran*, in both of which pleuritic (?) purulent effusions escaped, partly through the bronchial tubes, and in part through openings in the thoracic walls. So that an injection into the latter "instantly excited a violent cough, and part of it passed by the mouth mixed with pus." And yet one of these persons, on old lady, aged 73, and a cousin of Le Dran's, entirely recovered; and the other, after living several months with these fistulæ, at length died of another complaint.

The proposed measure being supported by these, and other reasons that might be adduced, the next step should be to ascertain how far its execution is compatible with the safety of the individual. And though the necessity for this proceeding previous to any operation upon the human subject is, to a considerable extent, removed by the account of the success attending the practice of the German physician, there still remain some points which cannot, in my opinion, be satisfactorily elucidated in any other manner.

The two chief evils likely to result from a direct opening being made into the seat of disease are pulmonary hæmorrhage and pleurisy. Any additional irritation produced by the slight wound of the lung would probably be more than counterbalanced by the increased facilities afforded for the discharge of the pent-up matters. With regard to the danger of injuring some large blood-vessel of the lung, it is to be observed—

1st. That the probability of this occurrence will be diminished by the solidification, and consequent obliteration of the blood-vessels, of the lung immediately surrounding the diseased part.

2dly. That if any active or protracted hæmorrhage did occur from this cause, an astringent solution, or a piece of caustic, might be introduced through the external wound, and other means used to arrest the hæmorrhage.

It now only remains to say a few words on the liability of the operation to produce pleurisy, as a consequence of blood or pus escaping into the cavity of the serous membrane. The chance of this taking place will of course mainly depend upon the degree of judgment shewn in the selection of cases. Until more information is obtained it will probably be well to confine the operation to cases where the stethoscopic signs leave no doubt of the existence of a suppurating cavity near the surface of the lung. And under such circumstances adhesions will generally be found to unite the contiguous surfaces of the pleuræ covering the diseased part of the organ.

But perhaps there would be a greater certainty of finding this desirable union effected, were the operation performed somewhat in the following manner:—The situation being fixed upon, let a tolerably free incision, say an inch in length, be made through the skin and subjacent cellular tissue; and then let the opening into the tubercular abscess be finally accomplished by the repeated application of potassa fusa to the bottom of the wound. In this manner a most effectual counter-irritation would be excited, which alone must prove advantageous; at the same time that the slight inflammatory action surrounding the slough

* See an English translation of his Observations on Surgery, published in London, 1758, pp. 116 and 132. I may remark here that it was the perusal of these observations, some months since, that first suggested to my mind the feasibility of artificially establishing, in some forms of pulmonary disease, a similar direct communication between the smaller air-tubes and the exterior of the thorax.

would be very likely to cause adhesion of the subjacent pleuræ, if it did not previously exist. This question I purpose to endeavour to decide shortly by some experiments; and if a circumscribed adhesion of two serous surfaces can, in any manner, be artificially effected, it will not only remove a chief objection to the operation as at present proposed, but will also render it applicable in various other diseases.

ON THE

NATURE OF TIC DOULOUREUX.

To the Editor of the Medical Gazette.

SIR,

AN amiable warfare has been raging for the last few weeks between sundry gentlemen*, each of whom claims for himself the merit of *discovering* the true nature of neuralgia. Dr. Black says: "the affected nerves being contained in rigid canals must be subjected to injurious pressure whenever the accompanying vessels are unusually distended with blood," and, according to Dr. Wallis, "upon this pressure depends the neuralgic paroxysm." Dr. Skae, of Edinburgh, then descends upon the combatants, robs them of their glory, and annihilates their pretensions to originality by pointing to a paper of his, containing the same theory, which appeared in a Scotch journal in 1840. As, however, there is nothing quite new under the sun, even Dr. Ebenezer Skae must yield the palm to predecessors. "A nerve," says Bichat—and this pathologist spoke long prior to 1840—"a nerve morbidly excited will produce exaltation of function by vascular congestion and irritation of the nerve itself, perhaps even of contiguous parts, from which it derives its arteries, upon the due performance of which its ordinary function depends. And since local determinations of blood to the surface are found to produce an excessive development of nervous energy, as is proved by its influence upon the capillaries in increasing heat, it is probable that *congestion of the vessels of the neurilema* may produce similar results in the ultimate distribution of a nerve."

Martinet, too, was of the same opinion, and his recorded theory of tic douloureux is, that in every instance it depends upon "vascular congestion of the neurilema," which he found, in several examinations, to be "morbidly thickened, accompanied by a reddish or violet tinge, and spotted with minute ecchymoses."

Dr. Ley, in his Essay on "Laryngismus Stridulus," published in 1836, says, "Local determinations of blood increase the development of nervous energy;" and he agrees with Bichat that excessive pain may be produced by injurious pressure from the congested neurilema.

Having recorded these authorities, I ventured to draw the following conclusions in my work on Tic Douloureux, published in 1841:—"The progress of tic douloureux appears to be as follows: First, disordered function from irritation of the proper nerves of the organ, arising from some noxious influence or impression (the proximate cause), which exhausts the nervous influence whence the capillaries derive their power. They thus become weakened, allow of over distension, and are in a state of passive *congestion* or *hyperæmia*."

There are more opinions, I believe, to the same effect, and, after all, they are but *opinions*, for the great objection appears to be, that the pain will frequently shift its seat from one spot to another, distinct and remote, long before the vessels of the neurilema could by possibility become sufficiently turgid to produce injurious pressure.

I am, sir,

Your most obedient servant,

R. H. ALLNATT, M.D.

Parliament Street, Whitehall,
Sept. 10, 1844.

* Query—in Edinburgh?—ED.

A FEW PRACTICAL HINTS

ON

THE TREATMENT OF HARE-LIP.

BY JOHN CHARLES HALL, M.D.

(For the Medical Gazette.)

I BELIEVE more cases of hare-lip have been under my care than generally come under the notice of those who are not connected with an hospital; and I therefore venture to offer a few hints on the mode of procedure in the treatment. During the last three months I have operated in four cases; three of the children were recommended to my care by medical friends residing in Worksop, and were under three months old;

and one, brought to me a week ago, was more than three years. In one case a considerable portion of the upper jaw was wanting; in another there was a fissure of the palate; the other two presented nothing unusual. The points to which I purpose to direct attention are—1st, *the best age for performing the operation;* and 2dly, *the way in which it ought to be done.*

First, as to the best age for performing the operation. It has ever appeared to me that an early removal of the deformity must be very desirable, and I see no good reason for keeping the parents for two or three years in a painful state of anxiety. It is true that infants are liable to convulsions after operations; but they are certainly exposed, in some degree, to the same danger at two or three years old: although we should decline operating on very young children therefore,—children of a few weeks old,—I certainly think it unnecessary to wait until they are two or three years old before interfering. Le Dran operated on children of all ages, even at the breast, and B. Bell operated with perfect success on infants under three months old. In the three cases recently under my care (from Worksop), not one was more than three months old; one was only nine weeks, and the other ten. In another case operated on by me, at Clayworth, four or five years ago, the child was only seven weeks old; and each case recovered without a single bad symptom. In another case in which the operation was performed on a child nine weeks old, all went on very well for two days; when the nurse, neglecting the infant, allowed it to tear out the pins; in this state it was brought to me. At the request of the parents, but I will own against my own inclination, the edges of the wound were pared a second time, and fresh pins introduced; in three days the pins were withdrawn, and the only inconvenience experienced was a slight scar where one of the first pins had been forced out; this, however, shortly filled up, and the child is now perfectly well, the operation having proved altogether successful. With these and many other similar facts before me, I am led to think that the dangers or inconveniences of operating early have been much overrated. On looking at authorities on the subject, however, I find that I am not singular in this opinion:—Muys, for instance, says "the operation ought to be undertaken as soon as the child is *six months old;*" but Roonhuysen, who was a celebrated operator for hare-lip, selected *ten weeks after birth* as the best age for operating. Baron Dupuytren justly considers it as dangerous to operate on new-born children, "because their flesh is so soft that the pins readily cut through it;" and because the general mortality, independent of every other cause, being at this age greater than at any period of life, it would be imprudent to augment the chances of death which are suspended over the young child, by an additional one resulting from the operation. Taking every circumstance into consideration, the result of his experience induces this distinguished surgeon to conclude "on the whole, that the best period for operating is when the infant is three months old" (Leçons Orales, t. iv. p. 90-92). Again, Mr. Cooper remarks, "a child three or four years old has a thousand times more dread of pain than of the deformity, or of the inconveniences of the complaint to which he has been habituated; while an infant fears nothing, and only feels the pain of the moment" (Dictionary, page 655.)

Looking at the advantages of operating early, the comfort it affords the child, the pain and distress it spares the parents, it appears to me advisable to operate before the time of teething. We have the high authority of Baron Dupuytren for *three months* as the best age; a time at which, in the great majority of cases, I am confident the operation may be performed with the most perfect safety and success. Of course there are cases in which it may be prudent to wait until the child is five months old,—cases in which there is a bony projection (as in Mr. S. Cooper's case), which it would be dangerous to cut away, and which can be, in some degree, reduced by the daily application for a few hours of a spring truss; still, in such a case as this, I would not delay the operation beyond five months (the period at which this distinguished surgeon operated with the assistance of the late Sir A. P. Cooper), a period selected as the latest previous to the feverish excitement more or less present during the period of dentition, at which the operation ought to be resorted to.

2nd. The way in which the operation ought to be performed. If there be great diversity of opinion as to the time for proceeding to remove the deformity, an equal difference of opinion exists as to the mode in which the operation should be performed, and particular knives and scissors, pins and ligatures, have each their advocates.

I wish to claim nothing new for the plan of operation that I have found successful; our object is to make as even a cut as possible, in order that it may unite by the first intention, and leave nothing but a slight narrow seam: this may be effected in several ways: the patient, however, must first be secured by a large cloth wrapped round his body: one corner of the lip is then taken up between the finger and thumb, and drawn tight, and the point of a straight sharp-pointed bistoury entered close to the nose and drawn downwards until it cuts its way out at the lower part of the lip. The same plan is then followed on the other side, and the incision made exactly the same length as the first; the slips are then cut out from each side, and made to unite at a very acute point; the incisions must have been so formed as to enable the divided edges to be brought into the most exact contact; we must have no wrinkling, no riding of one cut surface over the other, no deficiency at the lower part of the wound, nor must space be afforded between the cut surfaces for blood to accumulate. Having lain aside the knife, a common sewing needle (the head of which has been covered with sealing-wax,) must be introduced near the upper, and another at the lower part of the wound, *close to the free margin of the lip*, and so placed that the parts may be, on each side, perfectly on a level. The needles ought to be introduced some distance from the edge of the wound, and also through at least two-thirds of the thickness of the lip, otherwise they are apt to cut their way out before the cut edges are sufficiently united. If the pins are not introduced through a considerable portion of the substance of the lip, a narrow groove is left, in which portions of the food accumulate; there is, however, another, and a much more important reason, for placing the pins deeply, and thus bringing the posterior edges of the wound into contact: when so placed the bleeding immediately ceases; but when the pins are placed less deeply the bleeding continues, and causes much trouble, and even places the patient's life in danger. If memory serves me, Louis mentions a case in which, from neglecting to place the pins properly, the patient died.

When the pins are properly introduced, strong silk, well waxed, is to be passed round them in the usual manner, care being taken to draw it only sufficiently tight to bring the edges together, and not, as I have seen it, pulled so hard as to cut out a circular portion of skin over the middle of each pin, which separates in a day or two, leaving a very ugly scar: after the silk is secured the ends of the pins must be cut or broken off with a pair of nippers: no dressing of any kind is required, except a narrow strip of plaister between the pins and extending some distance on either side of the face.

After the pins have remained three whole days, they must be carefully withdrawn; a little olive oil, or warm water, having been first applied to the upper pin, and then, taking hold of it with a pair of forceps, it is to be gently turned round and carefully withdrawn: the silk will probably remain a few days longer, and a long strip of plaister is now to be applied over the threads from cheek to cheek; the lower pin is next to be withdrawn in a similar manner, and the same support afforded.

I have only as yet considered simple cases of hare-lip; when we have a double fissure the operation must be varied to suit the peculiar circumstances of the case; however, in the majority of cases, we may proceed at once as in single hare-lip, and by passing the needles across the two wounds, and through the intervening flap, I have found that the parts are easily brought together, and retained in contact—a plan, in my opinion, preferable to performing two operations at an interval of some weeks.

To recapitulate:—It appears 1st, that we may operate in hare-lip when the infant is three or four months old with safety and success, and that there is no good reason for delaying the operation beyond that period. 2dly. The operation may be performed as above described (and this plan is adopted by Mr. Liston), or by fixing a piece of wood under the lip, and then placing

the parts on the stretch, to cut away the whole of the callous edge, a way of operating calculated to give much more pain than the far more simple mode of Mr. Liston; or we may use a very nice pair of scissors, invented by Savigny, of St. James's Street. My attention was first drawn to this instrument by my friend Mr. Lane; I have since used it in several cases, and have every reason to recommend these scissors to my professional friends. 3dly. Care must be taken to introduce the needles sufficiently deep, for the reasons already stated; to bring the cut edges together as evenly as possible, which cannot be accomplished unless the parts are freely cut away, particularly that *red rounded substance always present at the lower part of the fissure, which, if not removed, will leave considerable deformity;* and lastly, when the pins are introduced, the parts must not be made hot by loading them with all kinds of useless applications, nor must they be withdrawn until time has been afforded to allow the adhesions to become sufficiently firm. I am aware that to the experienced and practical surgeon this paper can offer nothing that was not previously perfectly familiar to him; to the younger surgeon, however, it may, I trust, afford some useful information, and supply him who is about to operate for the first time with hints by which he may avoid those difficulties which all are alike liable to encounter, when undertaking for the first time that with which we are not practically acquainted.

Grove Street, East Retford,
August 6, 1844.

CASE OF ACCIDENTAL UTERINE HÆMORRHAGE,

IN WHICH THE MEMBRANES WERE RUPTURED, AND LARGE DOSES OF ERGOT OF RYE ADMINISTERED.

To the Editor of the Medical Gazette.

Sir,

On the morning of the 30th of August, 1843, I was urgently requested to visit Mrs. P., æt. 35, a stout corpulent lady, in the last month of her fifth pregnancy. She had risen at an early hour to arrange some domestic matters, but had returned to bed quite well, and in half an hour was seized with alarming flooding.

On my arrival, she was found lying in a pool of blood, deplorably sunk. The countenance was anemic and cadaverous; surface very cold and clammy; pulse at times entirely gone, and in scarcely an audible voice she said she was dying; abdomen was pendulous, flabby, and yielding throughout; the flow continued, and she had no labour.

The vagina was immediately stuffed, the abdomen supported by a proper compress and roller, and from time to time small quantities of brandy and water were administered. In about half an hour pulse somewhat rallied, and on making inquiry into state of os uteri it was found soft, but only admitting point of finger; membranes were entire, but closely embracing head, which presented high; no portion of placenta could be detected. During this examination, though gone about with all convenient speed, a considerable quantity of blood was lost, and pulse again became imperceptible; at times she seemed in a fatal syncope, while with the tampon, and additional support to abdomen by the hands of assistants, an attempt was made to arrest the hæmorrhage. In addition to the stimulus, she commenced taking ergot of rye, in two-drachm doses, by way of infusion, every twenty minutes: an ounce of the drug was taken with little apparent effect. On a second examination, however, os uteri was found more dilated, and the membranes could be felt somewhat distended, and threatening to protrude; with considerable difficulty they were reached, and scratched through: still the flooding threatened to continue, and if possible a more alarming state of prostration ensued: constant retention of plug, and uniform persevering compression to abdomen, were demanded. In vain I waited upwards of half an hour for uterine contraction, when the ergot was resumed in two-drachm doses, after the second of which, three powerful pains in rapid succession ushered into the world a large still female child, a massy placenta, and a basonful of coagula. Child was pale and perfectly bloodless, and uterine surface of placenta was coated with a layer of coagulum half an inch thick. Uterus remained firmly contracted, and although patient lay in a very depressed condition for some time, suffering much from pulsative headache and œdema of lower limbs, she had a good recovery.

Remarks.—Placental separation, if not entire, was obviously very extensive; indeed, the aspect of placenta sufficiently indicated this. Under such profuse and sudden hæmorrhage the child could not survive, and but a gloomy prospect was afforded of saving the mother.

It appears to me plain that this formidable case is one of those few that might lay claim to the exception of Rigby's general rule applicable to cases of an accidental kind, for notwithstanding rupturing the membranes, when that became practicable, and using every effort to check the flow which was fast undermining the vital powers, the uterus remained sluggish and relaxed, and the hæmorrhage threatened to continue.

I am aware that many practitioners of great respectability will consider it an act of imprudence on my part to have hesitated one moment in proceeding to artificial delivery, more especially, when, after the means adopted, nature seemed so unfit to establish labour, or complete the expulsion. The result of the treatment, however, justified the practice; and here it may not be presuming too much to state that this formidable case most fully corroborates the propriety of Rigby's practice, and that of those authors who not only advise rupturing the membranes, but also the administration of efficient doses of ergot, rather than the adoption of artificial delivery, as still recommended by some eminent writers, whether the case may be accidental or unavoidable; for if nature, aided by the means employed, was successful in this apparently hopeless case, surely it is natural to conclude that she will not be less competent in cases where there has been loss of blood, and especially when the membranes can be easily ruptured.

When called to a case such as the one under consideration, it is of the utmost importance to make an early examination, for upon our knowledge of the state of the os uteri ought to depend our future steps. I was necessarily prohibited from taking this step, and I honestly believe, if an examination had been entered upon immediately, and the os uteri found in a fit state to admit of version, delivery would have been out of the question: in fact, had any time been lost in arresting the flooding, a fatal result must have succeeded. While the salvation of the patient was mainly wrought by rupturing the membranes, and large doses of ergot, the tampon and abdominal compression proved indispensable requisites. In consequence of the risk of internal flooding attributed to the plug, some advance objections to its application, but I would beg to state that such danger may be greatly, if not entirely, obviated by uniform firm compression, not only with a retained compress and roller, but by the hands of two assistants, as was practised with so much success in this case.

In concluding these few remarks, I would offer my feeble testimony in behalf of rupturing the membranes in cases of accidental uterine hæmorrhage, and by no means would I be disposed to withhold the administration of ergot largely. I make no doubt but the quality of the ergot will by some be called in question, and if proved to be genuine, the propriety of such wholesale doses as were used will be much doubted. In the first place, I would remark that ergot from the same parcel was used with complete success in cases both before and immediately after the case in point; and, in the second place, I would state that if it be not true that one ounce of ergot acts more energetically than two drachms, and if the drug is to be of any service at all, simply in cases of overwhelming depression, where it is as essential for the uterus to retain its contractile power after the expulsion of its contents, as it is for it to exert power during the progress of labour, large doses will be required, and in my opinion ought to be given. Fully an ounce and a half was administered in this case, and no evil effects followed. The child was dead, but it can be at once perceived that it arose from the hæmorrhage; indeed, I feel persuaded that life was extinct before any of the drug was taken.

It may not be altogether foreign to this paper here to record my meed of praise in behalf of the ergot of rye. As an obstetrical agent in the hands of a judicious practitioner, I believe it to be invaluable, and in obstinate cases of menorrhagia I can highly extol it. With regard to its effects on the fœtus in utero, it is impossible for me to arrive at the conclusions which Dr. Bentley* and others have come to; for in making

* See Dublin Journal of Medical Science, for May 1844.

a comparison I believe I had more still births without the ergot than with it; and many cases could be adduced in which the ergot must have been in the circulatory system of both mother and child six hours previous to delivery. I shall as briefly as possible just allude to two cases which I had lately, as they tend to controvert the opinions of those who insist upon the poisonous action of the ergot in fœtal life. The first was a breach presentation, first confinement, peculiarly severe, and lasting twenty hours; the second was a head presentation, a fifth confinement. In the first, four drachms of the drug were given in divided doses, and I feel assured that three-fourths of that quantity would be in the circulatory system three hours before the expulsion of the child: it was asphyxiated, but no more difficulty was experienced in resuscitating than in breach cases to be met with every day; there were no convulsions, and in every respect mother and child did well. In the second, the drug was administered on account of irritation; six drachms were given before any efficient pains commenced, and I feel positively sure that two-thirds were taken three hours before expulsion; the child was lively, and continued so. I have every reason to believe that the ergot was of the best quality.

For eleven years I have used the ergot of rye very extensively, and with considerable success, and from all that I have experienced I feel myself called upon to state that I am still of the old opinion in regard to its injurious effects, not as a poison on the fœtal system, but acting as a mechanical agent through the instrumentality of the uterus, obstructing the circulation, and thereby causing asphyxia or death, according to the degree or continuance of the pressure. If the drug is as deleterious as some would affirm, it occurs to me that we would have more still births, for surely before the uterus can be acted upon the ergot must enter into the circulatory system, and be ready to manifest its destructive powers immediately, so that whether the birth took place within two, four, or six hours after the administration of the drug, we would be alike unsuccessful.

From what has been advanced, let it not be supposed that here the unlimited use of the medicine is advocated; it is a valuable, and at the same time a dangerous remedy, and therefore ought not to be indiscriminately given. In first cases, excepting when the breach presents, I never give it, and it is quite inadmissible in unnatural presentations.

I am, sir,
Your obedient servant,
ROBERT PATERSON,
Surgeon.

Glasgow, 294, Argyle Street,
Sept. 1844.

ANALYSES AND NOTICES OF BOOKS.

"L'auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

ACTONIAN PRIZE ESSAY.

Chemistry, as exemplifying the Wisdom and Beneficence of God. By GEO. FOWNES, Ph. D. London, 1844. Churchill.

WE are not sure that chemistry is the best, nor even a favourable, subject for illustrating the wisdom and goodness of God. The actions of chemistry, carried on as they are between the ultimate atoms of matter, and at distances infinitely small, seem to our mind to want grandeur, scope, dimensions, commensurate with argument so high. Nor do we see that any inferences in point are deducible even from the ultimate laws of chemical science: the weight and combining proportions of the atoms of matter might apparently have been anything else than they are, and the evidences of the wisdom and beneficence of the Supreme Being remained precisely as they are, the argument for design and contrivance neither enhanced nor lessened thereby. We see invariability, universality, in these laws, indeed; and therein note and admire another link in the wondrous chain of creation; but the subject is beyond the eyes of common men, and he who wrote his power in the starry firmament and the green earth probably never meant that evidences of his being and attributes should be sought for in philosophic chemistry. Mr. Fownes, in writing his essay, appears to have felt this; and his work is much more of a tractate on physics and physiology than on chemistry, strictly so called. The subject is in fact discussed under the following heads: — 1. The chemical history of the earth and atmosphere.

2. The peculiarities which characterize organic substances generally. 3. The composition and sustenance of plants. 4. The relations existing between plants and animals. Surely there is harmony between the earth and the atmosphere, and the living things that inhabit the one, and draw life in so mysterious a way from the other; these living things could not else have been. Surely, too, there is harmony between the composition of the higher forms of organization and that of the lower, upon which the higher live;—all this has been clearly exposed before; nowhere at such length and so well as in the Bridgewater treatises of Prout and Roget in especial. The thing is even most ably shown forth within much smaller compass, in the elegant lecture of M. Dumas, which appeared some years ago in French, under the title of more lately in English under the title "Leçon de Statique Chimique," and of an essay "On the Balance of Organic Nature."—But we would not be held censorious; we ought rather to quarrel with the managers of the Royal Institution for selecting chemistry as the subject of the Actonian prize essay, than with Mr. Fownes for having written a very sweet tract on the harmony that exists between the inorganic and organic realms of nature.

There is another and a delicate point upon which we shall adventure to touch in this place, and that is, the reception by a certain party in the church of this country, of all such essays as that of Mr. Fownes, and of all assistance which the naturalist ever pretends to supply to the theologian. We have oftener than once seen the anatomist brimful of the evidences of design and contrivance which he found in the structure of animals, but coolly listened to by the doctrinal divine, and finally flatly charged with deism because of his science and philosophy. The clergy as a body notoriously do not like medical men, whom they challenge as tinctured with scepticism in the mass. We for our own part have frequently regretted the woeful ignorance of physical science so conspicuous in the clergy at large. One of the high priests of nature, as we are, and intimately convinced that He who reveals his will in time, can be no other than the creator of all things in eternity, it has always seemed to us that some considerable tincture of physical, and especially of physiological science, would be a vast ornament in the good divine, and would greatly help him in his understanding and appreciation of his brother the physician. But we quit this delicate subject, to state the cause of the appearance of this Essay of Mr. Fownes.

From his preface we learn that—"In the year 1838, Mrs. Hannah Acton, widow of the late Samuel Acton, Esq. of Euston Square, from motives of respect and regard for the memory of her deceased husband, and in order to carry into effect his desire and intention, caused an investment to be made of the sum of One Thousand Pounds in the three per cent. Consol. Bank Annuities, in the names of the trustees of the Royal Institution of Great Britain, the interest of which was to be devoted to the formation of a fund, out of which the sum of One Hundred Guineas was to be paid septennially, as a reward or prize to the person, who, in the judgment of the committee of managers for the time being of the Institution, should have been the author of the best essay illustrative of the wisdom and beneficence of the Almighty, in such department of science as the committee of managers should, in their discretion, have selected—the form and conditions of the essay being also, in great measure, left to the choice of that body.

"The subject chosen for the prize of the first period of seven years, was 'Chemistry, as exemplifying the wisdom and beneficence of God.' The prize was awarded in April last; and having, on this occasion, had the happiness to be the fortunate candidate, I now beg to offer to the notice of those who feel interested in such matters the essay in question, satisfied that my labour will not have been in vain if the smallest support drawn from the magnificent science of chemistry shall be found to have been given to the Great Argument."

This quotation will enable our readers to understand wherefore Mr. Fownes comes before us in the Actonian Essay. For our part we beg to recommend his well-written production to those among our readers who are not familiar with its subject. The book is elegantly printed and neatly bound, and would make a very appro-

priate, and, we should say, an interesting present to the youth of both sexes; upon a younger, or even an elder sister, who was either *seriously* or *not seriously* disposed, it would very certainly be well bestowed.

MEDICAL GAZETTE.

Friday, Sept. 20, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in dublicum sit, dicendi periculum non recuso."

CICERO.

THE MEDICAL PROFESSION BILL —No. VI.

WHY ARE THE BILL AND ITS CONSEQUENCES WHAT THEY APPEAR?

WE have been greatly puzzled, like the vast majority of the profession, with the general tone and temper of this Bill, as well as with the nature of its immediate effects,—its first-fruits, as they may be called, the new Charter and the proceedings of the Royal College of Surgeons; the consequent alarm and dissatisfaction that have taken possession of the mind of the body of the general practitioners, members of the Royal College of Surgeons, resident in the metropolis, we can readily understand.

A certain party in the profession has been incessant for years in its cry for Medical Reform. We for our part never joined in the clamour: we saw room for amelioration, indeed, in several respects; but these we also saw in progress of gradual and safe development. We believed that we had the elements of improvement within ourselves, and as we were already constituted under various heads; we wanted not the rude interference of Government to drive us beyond our ability to keep pace with its behests; we desired not to run the risk of FOREIGN interference with our institutions, fearing that the effect of this might be to loosen rather than to confirm the not overstrong bonds of good understanding that knit the discordant elements of the medical profession together, through wont and usage, at least, if not by absolute fitness.

We hope the reform party are pleased with the prospect that has been opened up to them;—stripped naked and fined by the minister—cast off and disowned by the Royal College of Surgeons—verily they have forced matters to a most prosperous conclusion!

We for our part have been greatly at a loss, as we said, to conceive the spirit that has actuated the movers or concoctors of this Medical Bill, its appendages included. We have been tempted to look beyond the "ignorant present," and our own limited circle in the metropolis, to the north and west especially, and we think we have at last arrived at a clue which may lead us to penetrate the mystery. In the first place, we do not hesitate to denounce the bill as *un-English* in its spirit, and as dictated by a feeling decidedly hostile to the general practitioners, members of the medical profession of this portion of the empire. Both Irish and Scotch influence, we feel morally convinced, have been at work to injure them; and so far the plot is full of promise. The Dublin College, for instance, hold themselves very high, and estimate their own members at a much greater price than the members of the London College. They have been known to declare that they had made no effort to raise the standard of the education and qualifications of the candidate for the diploma in surgery, that had not been frustrated and made nugatory by the system of underselling practised by the Royal College of Surgeons in London.

The people in Scotland, again, say that several of their graduates had been plucked, others prosecuted, and many more kept in fear of prosecution, by the Society of Apothecaries.

The authoritative surgical community of Ireland have, then, as we conceive, made a dash at the respectability of the members of the Royal College of Surgeons in London; the Scotch Universities, on their side, have made a dead set at the existence of the Apothecaries' Society, as a body, having weight or say in the education of the medical man, or the practice of medicine; and the College of Surgeons, we apprehend, have lent themselves to the two parties, to effect their several purposes. So far as we "can look into the seeds of time, and say which grain will grow and which will not," we see our own excellent Royal College playing every body's game rather than their own.

The circumstances upon which the Irish College ground their complaint of the London College are as bad as can be. In England we have many jobs, but in Ireland everything is a job; the constitution of the College of Surgeons of Ireland was one, of course. In their old charter no young man was admissible for examination for the diploma unless he had been bound apprentice to a member of the College; and the indenture could only be obtained upon payment of a good round sum, and doing the shabby work of the superior in the dissecting-room and hospital, as well as in private, for a long term of years. But comparatively few could afford either the apprentice fee, or the number of years of servitude which the indenture implied. The consequenoe of this was, that young Irishmen pursued their studies in Dublin for the two or three sessions required by the London College, at which no apprenticeship was necessary; and when furnished with the indispensable certificates, over they came to the Metropolis, presented themselves for examination at Lincoln's Inn Fields, and, smart fellows! with the bones and muscles, arteries and nerves, at their fingers' ends, they passed as matter of course.

Now it is obvious that the examiners of the Royal College of Surgeons of London must have put large sums of money into their pockets, and into the College funds, by this means; and it is just as obvious that all they gained in this way was so much lost to the examiners of Dublin,—so much taken from their pockets and diverted from their common funds; the water that turned the London mill so briskly for many years, was in very large measure water taken from the Dublin mill-stream.

Our readers will understand after this, what is meant by the Dublin College of Surgeons, when they speak of their attempts to raise the character of the surgical profession having been frustrated by the underselling of the Royal College of Surgeons in London: the attempt to raise the character of the profession, rightly interpreted, signifies neither more nor less than this, that the selfish purpose of the Council of the Dublin College of Surgeons, in terms of their charter, to force large fees into their pockets by placing restrictive conditions of an onerous kind upon candidates for their diploma, was frustrated by the accessibility of the London College. A large proportion of the practitioners of Ireland are members of the Royal College of Surgeons in London; these men the magnates of the Dublin College hate and despise—it is their interest to humiliate them and make them feel their inferiority; hence the effort, so far successfully made, through the act of the College of Surgeons in London, to degrade these men, and along with them the body of general practitioners of England. Upon the other, but no less cogent grounds specified, will the hostility of the Scotch Universities and Colleges to the empire of the So-

ciety of Apothecaries be readily apprehended.

Our readers will now, we trust, understand wherefore Mr. Macaulay badgered Sir James Graham, night after night, about the Medical Bill until he was compelled reluctantly to produce it, and wherefore the *representative of the interests of Edinburgh and its University* gave his warm assent and support to the measure; we do not recollect whether any Irish member followed Mr. Macaulay in his approbation. We had not the light when the Bill was produced which we have now to enable us to read the motives of honourable members.

And now, having come to the conclusion at which we have arrived by a process of analysis and of synthesis, we venture very respectfully, but earnestly, to entreat the Council of the Royal College of Surgeons to reconsider the measures they have lately adopted, the steps they have lately taken. The numerous, the respectable body of men who constitute the members of the Royal College of Surgeons, cannot be left outcasts, degraded as they feel themselves to be by the arbitrary elevation over their heads, upon the score of no conceivable merit, of a certain number of their co-members. Almost to a man, the general practitioners of the metropolis have come to the conclusion that the pure surgeon and physician are in league to degrade them, and they are now animated towards both with bitter feelings of hostility and revenge. To have spared these feelings would have been worth large sacrifices. We do not say that the general practitioners are all that they might be in point of acquirement, &c.; still, we maintain that a more respectable body of men than the general practitioners of England, in life and morals, does not exist; they certainly surpass the clergy, who are our teachers of morals, and authorities in religion. The profession of medicine has unquestionably a humanizing and an ennobling influence; he who is engaged in it, and has had an indifferent elementary education, soon becomes alive to the fact, and if his opportunities do not always, or, perhaps, even generally, enable him to do much in the way of repairing his deficiencies, still are they ever subjects of regret to him—he is never contentedly ignorant. And then, if these men be not all that is held desirable, whose is the blame? who prescribed the course they followed, the education they received? who tested their competency, and gave them their certificate of fitness? The Court of Examiners of the Royal College of Surgeons. It is their own offspring that they are condemning, their own act and deed that they are proclaiming to the world as unrighteously done. The medical education of the general practitioner, of him who is at once Member of the Royal College of Surgeons and Licentiate of the Society of Apothecaries, is actually better, more complete, than that of him who is member of the College alone; on the score of prescribed education the general practitioner has claims superior to the member of the College only.

MEETINGS OF THE PROFESSION UPON THE SUBJECT OF THE MEDICAL BILL.

Since our last several meetings have been held in connection with "our Bill." The first took place on Tuesday evening last, in the Council Chamber, Reading; Richard P. Smith, Esq. M.D. in the chair.

Meeting at Bath.

The purpose of the meeting, as stated by the Chairman, was to deliberate upon the nature of the Bill introduced by Sir Jas. Graham, entitled, "A Bill," &c., and to petition the two Houses of Parliament against the Bill as a whole.

Dr. Cowan moved the first resolution; and as we are well pleased to have the sentiments of a man so able

and so respectable as Dr. Cowan, on the Medical Bill, assuming them also to be in harmony with those of the medical profession generally in his neighbourhood, we make room for the abstract of his speech as given by the Reading Mercury of Saturday last.

Dr. Cowan commenced by observing that the object of the meeting was not to pronounce indiscriminate condemnation on the bill, which unquestionably contained certain clauses adapted materially to improve both the education and corporate interests of the medical profession, but to protest against that part of it which involved the removal of all restrictions upon unqualified practice. The appointment of a central controlling and representative body, or Council of Health and Education, was in itself a most desirable measure, though, as constituted in the bill, it could not otherwise be regarded than as too exclusively ministerial in character, and as failing to represent the opinions and interests of the medical profession. Still, the intention was good, and the proposal should be thankfully received. (Hear.) Another advantage of the bill was, securing an uniform and efficient standard of professional education, compelling all practitioners to give evidence of their qualifications, reducing the number of the licensing universities, and rejecting all foreign diplomas. These, with an improved system of registration, and the limiting all public appointments to regularly educated practitioners, could not be otherwise regarded than as great and important improvements; but notwithstanding such acknowledged benefits, it would be far better, he remarked, to leave the profession as it was, than to pass such a bill in its present form. The consequences of removing all restrictions upon unqualified practice would be most ruinous to the public, and most unjust to the profession. The legislative enactments now in force had materially contributed to diminish the numbers and encroachments of empirical pretenders. To repeal them, without the substitution of others in their stead, would be nothing better than a deliberate act of suicidal folly. Quackery, it was true, could never be destroyed by any legislative measures; but to assert that it could not be lessened and controlled by firm and consistent enactments, was at variance with all known experience, and contrary to the example of every other civilized community. England, with all her blessings, was worse provided for in her medical institutions, as regarded illegal practice, than any other European country; and while the bill was most properly insisting upon a high standard of qualification for the individuals who were entrusted with the responsible duties of ministering to the public health, it presented the monstrous anomaly of providing no legal protection for those who had complied with its requirements, while it permitted the irrestricted competition of the ignorant and designing. The protection implied in public appointments and in registration was nugatory and ideal; and were the present measure permitted to become the law, the profession and the public would suffer to an incalculable extent. But not only was medical practice to be uncontrolled, but the present monstrous system of stamped and patent medicines remained untouched, and government still consented to profit by a commerce waged by ignorant and unprincipled men upon public ignorance and credulity. Stamps and patents were accorded, without even the shadow of inquiry, to every nostrum and statement, however injurious and absurd, and the population of this country was doubly deceived by a partnership between the government and the empiric. Such a state of things was at once a violation of common sense—a serious injury inflicted upon the governed, and an insult to a legally qualified profession. (Hear, hear.) That statement would not be thought exaggerated by those who were acquainted with the real evils of empiricism. Many hundreds, if not thousands, of lives were annually sacrificed from the want of well and easily adjusted legal restrictions, and an amount of injury inflicted upon the public health impossible to estimate. If qualified men were necessary, the unqualified were injurious; and to require that they be punished and restrained, was only consistent with what they owed to themselves and to the public.

The petition agreed to is as follows:—

The Petition of the undersigned Physicians, Surgeons, and Apothecaries of Reading and the surrounding districts,

Humbly sheweth,

That your Petitioners are legally qualified Practitioners of Medicine and Surgery, resident in Reading and its neighbourhood,

That they deplore the anomalous condition of the Medical Profession, and concur in the expediency of its revision by legislative enactment.

That although they regard with satisfaction some of the provisions contained in the projected Bill of Sir James Graham, yet, as a whole, they view it with a disappointment, disapprobation, and alarm; for while it professes to protect the Medical Profession, and the public health, they believe it to be directly and most grievously injurious to both.

That it offers direct encouragement to Empiricism, with its enormous and in-

calculable evils, tends to degrade the educated and legalized Practitioner, and to discourage and retard Medical Science.

That it is unjust to Practitioners who have qualified themselves by a prolonged and expensive course of study, to subject them to an open and unrestricted competition with the uneducated; and while protecting the Army and Navy, together with the poorer classes, it fails to provide for the great body of the community, and exposes them to the wrongs and miseries of the unprincipled pretender.

That the repeal of the Apothecaries' Act, without substituting ample security against Empiricism, is both unwise and unjust; and that any Bill which does not provide direct and efficient prohibition, will fail to give adequate protection to the Profession and the Community.

Meeting at Leeds.

On Thursday last, a numerous meeting of medical men, of the Borough of Leeds, took place at the Philosophical Hall, on the subject of "The Bill," Samuel Smith, Esq. in the Chair, from whose opening observations we are sorry to see that there is misunderstanding in the Leeds camp. Let all well-wishers to their common profession endeavour to cement differences at this conjuncture; "divide et imprea" has hitherto been too sure a maxim to act upon in reference to the medical profession, and we shall grieve to see indications of division when nothing but unanimity can be of any avail. Mr. Smith, after explaining the object of the meeting, stated that the reason why the physicians, as a body, had not united with the other medical practitioners in the present proceedings, had arisen from some misunderstanding connected with the preliminary arrangements. Mr. Hey moved the first resolution, which he said was merely of an introductory character, expressing the desirableness of some measure of medical reform, and their satisfaction that Her Majesty's Government have become alive to the subject. Mr. Nunneley moved the next resolution, to the effect that the meeting viewed with satisfaction the approximation made towards a high and uniform standing of qualification for all members of the medical profession. He strongly urged the desirableness of a high and uniform standard of qualification for the medical profession, and pointed out many of the disadvantages which he conceived to result from the large number of licensing bodies at present existing in the country, all possessing certain privileges, but having no uniformity of qualification, and many of them only conferring the right to practise in limited localities. He conceived the science of medicine and surgery was indivisible. He repudiated the existence of artificial distinctions in the profession, considering that no man was qualified to practise in any single division of the science, unless qualified to practise in the whole; and that the only distinction which ought to exist amongst medical men was that which was the result of superior ability or greater industry. He would have the government fix a high standard of examination; but having done that, he would have it interfere no farther, but leave those who had passed that ordeal to find their own standing in the profession. As to the bill which had been introduced, he thought it good in some respects, and that Sir James Graham was well-intentioned in the matter; he referred to the proposed Council of Health for the regulation of the different licensing bodies, as calculated in some measure to produce uniformity of examination. Speaking on the subject of quackery, he urged the necessity of protection both to the public and the profession; and observed that scores of individuals in this town had lost their lives from improper treatment by unqualified persons. He also instanced that within the last fortnight he had seen a person who had lost an eye, and he had no hesitation in saying that it was not put out by the disease, but by the druggist. Mr. Price proposed the next resolution, urging the government to adopt more stringent means for the suppression of quackery, against the inroads of which the government measure seemed to him to offer no sufficient protection. On the motion of Mr. Braithwaite, a permanent committee, to carry out the views and objects of the meeting, was appointed.

Meeting at Hereford.

A public meeting of the medical profession of the city and county of Hereford, was held at the General Infirmary in that city, on Monday, the 16th instant, to take into consideration the provisions of the new Medical Bill, to frame a petition against its objectionable points, and take such other steps

as might be deemed necessary to oppose them in the best and most efficient manner; Dr. Bleeck Lye in the chair.

Resolutions were carried to the effect—"That the members of the medical profession present at this meeting cannot but regard the provisions of the Medical Bill with feelings of disappointment and alarm; for while they allow that the establishment of a Council of Health, and an improved system of organization for the entire body of the profession, is much to be desired, yet they consider that many of the provisions by which these objects are proposed to be effected are liable to great objection, and that the repeal of all the existing protective enactments, without the substitution of others in their place, more than counterbalances any beneficial effects which such an improved system might be calculated to produce."

"That this meeting deprecates in the strongest manner possible that principle of the Bill which, by removing the stigma of illegality from empiricism, throws open the practice of medicine to every unqualified person, as a measure disastrous of the public welfare, and ruinous to the best interests of the profession."

We cannot make room for more of the resolutions; but they were generally such as the profession at large seem to approve. A petition was agreed on to Parliament, an association formed, and after the meeting, at the invitation of the gentlemen resident in Hereford, their medical brethren from the country dined with them at the City Arms Hotel, and the evening passed off most agreeably to all parties. This is all as it should be; we love to hear of medical men dining together; after all, there is nothing like temperate sociality for cementing good feeling.

ON THE NECESSITY OF EFFECTING EXCHANGES IN THE COUNTY ASYLUMS OF RECENT AND CURABLE CASES OF INSANITY FOR CHRONIC AND INCURABLE CASES*.

WERE a casual observer of the passing events of the day asked his opinion of the prevailing character of society, he might with justice remark, that the present generation is mostly conspicuous for the countenance it gives to the *exposure* of existing evils, without lifting so much as a finger for their remedy or removal; that it has an open ear for tales of misery, but a most tardy hand for relief.

This character of the age generates a mawkish spirit of philanthropy, which needs for its existence the stimulus of harrowing scenes of wretchedness. Of this, unfortunately, there is too great an abundance, and of men—interested men—too many to pander to the public taste. The wants and destitution of the poor afford a wide field for all that is requisite to keep up the delusions of the one class, or to gratify the personal vanity of the other; in the meanwhile, relief stops at the threshold, or remedies are suggested which are as fruitless to the poor as they are burdensome to the rich.

Year after year, and session after session, has this important national subject, the "Poor Laws," occupied public attention; and, in spite of all the display of senatorial oratory, statistics, and petitions, the land is still cursed with the most abject pauperism—the poor have asked for bread, and have received stones.

Lamentable as such things are, this is not the place for political controversy, and we must rely on the efforts of earnest but disinterested statesmen for their amendment.

There is, however, a subject in connection with the welfare of the poor which it is more in our province to notice—we allude to the management of the insane poor; and we may here observe, that if the remarks which we have made above in reference to the morbid sympathy towards the poor in general, be correct, much more do they obtain in the case of pauper lunatics, whose misfortunes and mismanagement have been made the medium of much notoriety to many a would-be philanthropist.

Without intending to be censorious, it is really painful to witness how this subject has been hawked before the *sympathetic* public—how fashionable it has become as a means to an end—as a topic wherewith to agitate the susceptive bosoms of the many, and to establish the reputation of an ambitious few. If good resulted from the exercise of such

* Dr. Boyd's Report as to Lunatics, &c. chargeable to the Parish of St. Marylebone (Pamphlet, pp. 16).

evil means, the practice even then would be scarcely venial; but when, after all the vaunted benevolence, we learn that opposite results follow, it becomes highly reprehensible.

We would not be misunderstood: we heartily commend the exertion of many *really* benevolent men, whose lives have been devoted to the amelioration of the insane pauper; and we point to the results of their labour in the amount of cures effected, and the comparative happiness of the confirmed lunatic in a well-conducted establishment. We regret to find that this is not a universal state of things, and that, notwithstanding the "great cry" which has accompanied the annual reports of the Middlesex Asylum, that but "little wool" is the result. This is an unexpected and a disagreeable fact, which has just been revealed in a very temperate pamphlet by Dr. Boyd, of the St. Marylebone Infirmary. The simple statement of facts which pervades this unassuming pamphlet forms a striking contrast to the glowing and self-laudatory reports of more than one county asylum.

It would appear from Dr. Boyd's pamphlet, that since the year 1842 the propriety of exchanging incurable and quiet cases from the asylum at Hanwell, for the acute cases as they occur in the parish of St. Marylebone, has been urged upon the authorities at Hanwell, presuming that their establishment is more a *hospital* for the cure of the insane than an *asylum* for the incurable and harmless. This reasonable request has never been complied with, and on one occasion was *officially* declined by a committee of the visiting magistrates.

Impressed with the importance of procuring such an arrangement, the proposal has been made again and again, and urged in every point of view, but without effect, and in spite of the following facts, as expressed in the pamphlet — that "the early stage of insanity is that in which the greatest benefit is to be derived from the curative means obtained at so much cost in the Hanwell Asylum, and it is a gross act of injustice to the poor of this parish to have the beds in that asylum occupied by incurable cases, to the exclusion of recent cases yet in a curable state;" and again, that "there is not a single case now at Hanwell of less than a year's duration—a fact of considerable importance, inasmuch as statistics prove that after this period a continuance of the disease may be expected. There are about forty cases in private asylums and in the infirmary, many of them of recent date; and as these must wait for death-vacancies before they can be admitted into the County Asylum, they must in consequence be precluded from the very best chances of recovery."

Such reasonable expectations would alone justify the exchange which Dr. Boyd advocates; but in order to remove all doubt upon the subject, he further adds:—"With the view of showing how inadequate the wards of the Infirmary are for the curative treatment of the insane, it will suffice to quote but one instance, and which is of frequent occurrence, viz. the relapse of a convalescent by the introduction into the same ward of one or more acute and noisy cases, the result of defective means of separation, and which can only be efficiently used in a lunatic asylum like Hanwell, which is constructed expressly for the purpose."

The above facts stated by Dr. Boyd are confirmed in the Report of the Metropolitan Commissioners in Lunacy—*vide* page 87 of Report:—"In reference to the populous parish of St. Marylebone, the magistrates refused to exchange old incurable for recent and curable cases. But the professed, and indeed the main, object of a county asylum is, or ought to be, the cure of insanity. The patient who has had the benefit of a trial in the asylum where he has become incurable, should, we submit, give way to the afflicted pauper, who is in the workhouse or at home, and is probably curable, and equally entitled to be received at the asylum, where, by prompt and proper treatment, he may be restored to health and to his family, instead of being permitted to become an incurable lunatic, a source of expense to others, and of suffering to himself. A county asylum is erected for the benefit of the whole county, and is to be considered not merely a place of seclusion or safe custody, but as a public hospital for cure. A large number of the patients now in Hanwell derive no substantial advantage from the means of exercise and employment furnished in that asylum, and might be provided for in a separate establishment, thus making room for patients who are susceptible

of cure. The result of the system adopted by the Justices in Middlesex is, that the County Asylum is nearly filled with incurable lunatics, and almost all the recent cases are practically excluded from it. When we visited it in March last, there were 984 patients, *of whom only thirty were reported curable!* and there were 429 patients belonging to the county out of the asylum; and 40 applications for admissions had been refused within less than three months from the commencement of the year."

The above is a sad confirmation of our previous remark, that the distresses of the poor are more frequently discussed for purposes of display, than met in the true spirit of Christian charity. It is doubtless very gratifying and very *moving* to read of the deluded inmates of our County Asylum having balls, plays, &c. to remove the tedium of their existence; but we must not forget (however unpalatable the fact), that this act of supererogation is at the expense of protracted, and often of permanent, disease to many of their fellow sufferers.

Dr. Boyd's position, as the resident physician of an Infirmary of the most populous parish in the kingdom, must afford him ample means of ascertaining the most intimate wants of the poor; and we rejoice to find that, availing himself of these advantages, he has called the attention of the Board of Guardians to the important subject of their lunatics in a way the best calculated to engage their affections in behalf of these unfortunate beings. His appeal to the Guardians is confined to the *simple statement of facts*, which breathes more warmth and life into the subject, and enlists more *genuine* feeling in his cause, than all the garnish and touching anecdotes of Exeter Hall, or elsewhere, could possibly effect. In a word, we are pleased with Dr. Boyd's pamphlet, and heartily wish it "God-speed."

DEATHS FROM SMALL-POX.

A NUMBER of deaths from small-pox reported after vaccination, having occurred lately in the metropolis, a letter was addressed by the Registrar-General to the several metropolitan district registrars, requesting information upon the particular cases that were entered in such terms. The Registrar-General submitted the following queries to the district officers. 1st. When was the vaccination performed? 2d. By whom was it performed, and was it seen afterwards, and did the medical man say that it had taken effect? 3d. Was there any mark left on the arm? 4th. State the name and address of the medical man who attended the patient in his last illness.

The answers to these queries having been duly received, they were forwarded to Dr. Gregory, Physician to the Small-pox Hospital, for his examination; and his conclusions in regard to them have been published from the General Register Office. Dr. Gregory says:

"I have carefully perused the details of 34 cases of small-pox proving fatal after alleged vaccination, which you have done me the honour to submit to me, and beg to offer the following short commentary upon them." He then goes over each case seriatim, and gives the following summary:—

Cases incorrectly registered	11
Cases too doubtful to be made matters of inquiry	8
Undoubted cases of fatal small-pox after vaccination, in the adult	5
Cases of small-pox fatal in early life after vaccination	10
Total	34

The deaths of five adults after vaccination afford no scope for special comment. Similar cases have been recorded in all countries for many years past. But the deaths of 10 children after vaccination is a new feature in the history of the disease, and therefore demands a special investigation.

"The ages of these ten children are as follows: 1 of 9 years, 1 of 8, 2 of 6, 1 of 5, 3 of 4, 1 of 3, 1 of six months.

"2. In all of these cases the evidence of prior vaccination was such as to justify the Registrar in recording them as cases of fatal small-pox after vaccination.

"3. These children were vaccinated in different localities, shewing that the source of the vaccine imperfection was not local."

"4. The respectability of the vaccinators, and the appearance of scars in eight of the recorded cases, forbid the assumption of entire irregularity in the vaccine process."

"5. How are these cases to be explained? Are we to suppose that the virus employed in these vaccinations was less energetic than that which was formerly in use; or is it that some change has taken place in the human constitution in the course of the last half century? It is unquestionable that such a series of cases occurring forty-four years ago would have had a material influence on the fate of vaccination. Now, with our am-

ple experience of the benefits of vaccination, the fear is lest these cases should fail to attract that attention which may lead to ulterior benefit.

"6. In reasoning on these cases, it should be borne in mind that they are the first of the kind which have been brought before the notice of medical men. Similar occurrences may have taken place, but they have attracted no attention either here or abroad. No corresponding cases have been recorded in any of the quarterly reports transmitted from the provincial registrars of England and Wales. Nothing parallel to them has occurred in the experience of the Small-pox Hospital. The earliest stage at which small-pox has there been observed to prove fatal is fourteen years, though several instances of the disease in a milder form have occurred at earlier dates.

"7. These considerations afford ground for supposing that lymph of an imperfect quality had been used in some, at least, of these instances. Whether this supposition be well or ill founded, whether it applies to the lymph now in use, or otherwise, may be doubted, but the occurrence of ten fatal cases among children in the metropolis in the short space of a few months demands the especial attention of all who are engaged in the practice of vaccination. It behoves them, as well for their own credit as for the credit of vaccination, to be extremely careful in the selection of vaccine lymph, and to be distrustful of the result wherever the course of the vaccine process has been irregular.

"8. These cases suggest the necessity of enforcing by law a medical certificate of the cause of death in every case of registry. With such a precaution, the irregularities in the register of deaths, already adverted to, never could have occurred. I feel assured that the medical profession throughout England would willingly cooperate in such a design if the legislature should think fit to ordain it.

"9. These cases further impress me with the great importance of restricting the number of those to whom the parochial system of vaccination (enjoined by the Vaccination Extension Act) is entrusted. I speak after twenty-two years' experience in the practice of vaccination; and I know that the choice of effective lymph requires much tact and discrimination, and that, except at vaccine stations, where considerable numbers congregate, such choice cannot be had, nor such knowledge acquired."

In the letter to Dr. Gregory, with which Mr. Farr, of the General Register Office, accompanied the returns from the district Registrars, that gentleman put several very pertinent queries, which, with Dr. Gregory's answers, are as follows:—

"1. In what proportion of cases does vaccination duly performed with fresh lymph fail to produce cow-pox?—When lymph of adequate purity and intensity is used, the proportion is so small as scarcely to merit notice. Not more, certainly, than 1 in 1000 cases.

"2. Have persons in whom cow-pox cannot be induced by inoculation any unusual immunity from small-pox? To what extent does that immunity extend?—The few persons who are really insensible to cow-pox are believed to be insensible to small-pox also, but the subject is little known, and in the present state of the law, prohibiting inoculation *even for the purposes of scientific investigation*, not likely to be better understood.

"3. Are persons who have been vaccinated without effect to be considered 'unprotected?'—Persons who have been vaccinated without effect are in all cases to be considered as '*unprotected*,' because the chances are that the want of result is attributable to the vaccinator, and not to any peculiarity in the person operated upon.

"4. Have you any means of knowing the proportion of persons in the metropolis

(*a*) Who have never been vaccinated?
(*b*) Who have been vaccinated without effect, or without leaving cicatrices?
(*c*) Who have had cow-pox?
(*d*) Who have had small-pox?

—No means exist for ascertaining the proportion of persons resident in the metropolis who have been subjected to vaccination—still less to determine what proportion of the vaccinated have undergone that process normally or only nominally. All persons above the age of 44 may reasonably be supposed to have undergone inoculation rather than vaccination, but even this attempt to classify the metropolitan population with reference to small-pox and its antidote, is obviously open to numerous objections.

"5. What is the relative mortality of small-pox (natural)—and small-pox after cow-pox?—The mortality of small-pox in the unprotected exceeds 1 in 4, and hardly reaches 1 in 3. It exceeds 25 per cent., but scarcely amounts to 33. We may state 30 per cent. as the average. The mortality by small-pox as it occurs among the vaccinated is 10 per cent. As the numbers admited into the Small-pox Hospital, vaccinated and unvaccinated, are now nearly equal, so out of every 200 cases, we have one-half yielding 30 deaths, the other half 10 deaths; total 46 deaths out of every 200 cases, or 20 per cent. *mixed cases*, which is our present rate of mortality."

REPORTS,

By H. Fearnside, M.B.,

OF

CASES TREATED IN UNIVERSITY COLLEGE HOSPITAL.

[Continued from p. 723.]

Remarks.—The most prominent symptoms in this case were at once calculated to direct the attention to the heart as the organ principally affected; and the slightest inspection of the patient's chest not only confirmed the supposition of the existence of disease of the heart, but disclosed the fact that it was of great extent. The impulse of the heart, as well as the dulness on percussion, was perceptible over a much greater extent of surface than in health. This fact also served to point out that the heart was dilated as well as hypertrophied; and the smart but strong impulse of the organ exemplified the characters which the impulse usually has in this form of cardiac disease. From the impulse being perceptible in the epigastrium as well as to the right of the sternum, and from the dulness on percussion over the lower part of that bone, and even for some distance to its right, it was clear that the disease was not confined to the left side of the heart.

There was also evidence of the existence of valvular disease, in the morbid character of the first sound of the heart in particular, and the situation in which the murmur was most audible (over the site of the apex), indicated its being produced in the mitral orifice. But there appeared to be more than simple regurgitation of blood into the left auricle, as was shown by the prolongation of the murmur upon the second sound, the indistinctness of this sound opposite the apex of the heart, and the slight murmur sometimes succeeding it. These phenomena must have depended upon some current *into* the ventricle; but that this was not owing to regurgitation taking place through the aortic orifice, was proved by the distinctness with which the natural second sound was heard over the base of the heart, and by the absence of any morbid sound in the blood-vessels. Hence, as Dr. Williams observed, it appeared most probable that the morbid character of the second sound was owing to obstruction to the passage of the blood from the left auricle into the ventricle. Obstructive mitral murmurs are certainly exceedingly rare; the force of the current from the auricle to the ventricle being rarely sufficient to give rise to the production of sound. It is conceivable, however, that they may exist under certain circumstances, as where the left ventricle possesses considerable diastolic elasticity; or where, from long-continued regurgitation into the left auricle, this compartment of the heart is not only dilated, but excited to continually increased action,—and when, at the same time, a considerable part of the surface of the heart is brought into contact, at each pulsation, with the walls of the chest. With a concurrence of the conditions indicated, if obstruction exist to the passage of the blood, and especially if this be of a nature to be easily thrown into vibration, the production of a morbid sound is only what might have been anticipated. Again, in some cases the union of the segments of the mitral valves, at their contiguous margins, renders them incapable of performing their valvular office, and they present an infundibular projection into the cavity of the ventricle: now, if the margins of the aperture thus formed are free to vibrate, and the other conditions mentioned exist, the occurrence of a murmur would be intelligible, and especially when the heart was not acting very strongly, and the quantity of blood expelled at each contraction of the auricle was considerable.—*Dr. Williams.*

The pulse in this case had much of the irregularity and inequality characteristic of mitral disease. On some occasions, when the heart was acting with much violence, not more than half of its pulsations were transmitted to the artery at the wrist.

Regurgitation into the left auricle, by distending this cavity, and impeding the free discharge of blood by the pulmonary veins, has much tendency to produce pulmonary congestion;—this existed to a considerable extent at various times in the progress of the case, and was evidenced by the dulness on percussion over the postero-inferior parts of the chest, the muco-crepitant rhonchus, the cough and dyspnœa; the latter being especially distressing at night, when respiration is completely an "excited" act, and when pulmonary congestion is also favoured by the recumbent posture; respiration must also have been interfered with by the encroachment of the greatly enlarged heart upon the pulmonary tissue, thus diminishing the available part of the respiratory apparatus.

The disease of the heart produced very decided effects upon the brain and organs of the senses;—these were obvious in the disturbed sleep, frightful dreams, headache, and giddiness;—these symptoms clearly indicated a disordered state of the cerebral circulation,—and to the same cause might be referred the affection of the organs of vision and hearing.

Various disorders were manifested in the state of the abdominal viscera: the stomach

had suffered,—the patient frequently had anorexia, nausea, and vomiting; the liver was somewhat enlarged; the bowels were irregular, and the catamenia had been absent for a considerable time. The kidneys did not appear to have been implicated to any extent at the time of the patient's admission, but after the febrile attack, the urine became albuminous, and continued so to the time of the patient's death. If granular degeneration of the kidney be connected as a result with disease of the heart, we should certainly expect its development in such an instance as the present, where the latter was so extreme. The large excess in which urea, lithic acid, and its compounds, existed in the urine at various times, is worthy of observation, considering the little waste of material which must have been taking place in the system, except in the central organ of the circulation itself. Our acquaintance with vital chemistry is still too imperfect to explain this,—but we might almost be led to suppose that there existed some vice of conformation, leading to the undue development of lactic, or lithic acid, urea, &c. Such supposition might also explain the unusual disposition to rheumatism.

The cause of the heart-disease in this case was in all probability rheumatism; we find that the patient had never had palpitation, or any other symptom of disease of the heart, before her second attack of rheumatism; and since that period the evidence of its existence had been unequivocal. The heart is peculiarly liable to suffer in rheumatic attacks, by an extension of the inflammation to it, on account of the large quantity of fibrous tissue in its composition, and in that of its investing membrane;—also from its perpetual motion, and being necessarily so liable to be influenced by changes in the character of the blood. But there would appear to have been a peculiar tendency to disease of the heart, as well as rheumatism, in this case, probably depending upon original constitution; and this view is supported by the fact that a young brother of the patient, who had never had rheumatism, also suffered from cardiac disease;—the affection however does not seem to have been hereditary.

The *prognosis* in this case was very unfavourable;—the extent of the disease was so great, that unless it had been slowly developed, life could not have been maintained. For a considerable time the state of the system generally appeared less impaired than might have been expected; there was but little emaciation, and the process of sanguification did not materially suffer, and on this ground must be explained the late appearance of dropsy. Imperfect action of the excreting organs, indicated by a constantly albuminous state of the urine, was the prelude of dropsy, and a general failure of the powers of the system.

The indications of *Treatment* were to moderate the excessive action of the heart, and remove any local congestions which it might occasion; to act upon the excreting organs; and support the strength of the system. The means by which it was attempted to attain these objects have already been mentioned, and nothing more need be said upon the subject, except that the efficacy of the measures, and the influence of quietude and repose, were strikingly seen at various times in the progress of the case; showing that most important relief may be afforded in very extreme cases of disease of the heart.

VAGINA AND NECK OF THE UTERUS DOUBLE;

SECTION OF THE VAGINAL SEPTUM, DELIVERY BY THE FORCEPS.

By M. Lesaing.

The anomaly presented by this case has seldom been witnessed under such interesting circumstances, and the modified operation of the division of the septum is worthy attention.

M. Lesaing was sent for by the medical man in attendance, to a woman 36 years of age, who had been in labour two days with her first child, because he could not discover the os uteri. M. Lesaing, having introduced his finger, could not perceive at first any approach to the natural formation. After some time, however, he discovered between the labia and the nymphæ on the left side, as high up as the meatus urinarius, an opening which communicated with a large space, where he felt the head of the fœtus, and the neck of the uterus. Pushing his finger forwards he enlarged this opening, and felt near the neck a communication with a second vagina which had been first examined both by himself and the other medical attendant. The two canals were completely separated by a very thin septum from eight to nine centimeters in height. The neck of the uterus was continuous with that vagina which could not admit the passage of the head, whilst the one which corresponded to the well formed vulva terminated in a cul-de-sac. But at the end of the septum, close to the neck, there was a small opening, through which the semen had most probably found access to the womb.

The weakness of the woman, the time she had been in labour, and the discharge of some yellowish water at each pain, showed there was no time to lose. M. Lesaing determined to divide the septum, after

having tied it to prevent hæmorrhage, which was effected in the following manner. He twisted round the point of his index finger the end of a waxed thread, which he introduced close up to the neck of the uterus, where he felt the lateral fissure of the septum, which he crossed by bending his finger; then turning its point towards the external opening, he seized the thread with the fingers of his other hand: he tied the thread firmly one centimeter below the meatus urinarus. A second thread was passed in the same way, and tied as near as possible to the perineum, thus leaving between the two ligatures an interval of half a centimeter for the division of the septum. The fore finger was then slipped behind the membrane, which M. Lesaing divided with scissors on the point of his finger, which he introduced as far as the neck.

One hour having elapsed without any progress in the labour, recourse was had to the forceps, and the woman was delivered of a living but weakly child. The cure was complete on the twentieth day. At this period M. Lesaing examined per vaginam, and found two openings near each other, united together by a thin membrane anterior to the rent he made at the time of the labour. The neck on the right is smaller than that on the left side, and situated more posteriorly. They are so placed that after the finger is introduced into one opening the other is not perceived by the side of it. The uterus is single.—*Gazette Médicale*, Sept. 7, 1844.

CASE OF POLYPUS OF THE UTERUS

ADHERENT TO THE PLACENTA, SUCCESSFULLY REMOVED.

By M. Aubinais.

A woman, ætat. 35, was afflicted, after two natural deliveries, with frequent floodings, accompanied with pains in the loins. This state continued for five years, when she became pregnant a third time. When M. Aubinais was called to her, he found that the fœtus was expelled, the cord broken, and the placenta retained in the uterus. The insertion of the cord into the centre of the placenta was felt by the finger passed along it; but at twenty-seven millimeters to the left of its point of insertion, the presence of a tumor of the size of a large hen's egg was discovered, which made the placenta swell out into the shape of the bottom of a lamp. The placenta was detached from left to right, and the polypus was found to adhere to it, which explained the rupture of the cord. When the placenta was pulled, the polypus was drawn with it, as well as the uterus. M. Aubinais firmly supported the uterus with one hand on the hypogastrium, then seizing the polypus, which appeared to him to have an elongated pedicle, he twisted it, and brought it away without much difficulty. The entire placenta came away with the polypus, and without much hæmorrhage. The adhesions of the polypus to the placenta were examined, and found to be strong, particularly over a space of the size of a franc piece. Several very small vessels had kept up the circulation between the polypus and the placenta, and on pressing these bodies at the same time, these vessels were seen to fill with blood. The patient was soon cured, and she has since been confined, making her fourth time, without any untoward symptom.—*Gazette Médicale*, September 7th, 1844.

APOTHECARIES' HALL.

Gentlemen who have obtained Certificates, Sept. 12.—J. F. Johnson, Watlington, Norfolk.—T. C. Jones, Ruthin, Denbighshire, N. W.—J. Pearson, Newton, Cumberland.—J. T. Mosgrove, Exeter, Devon.—G. Codd, Dublin.—J. C. Richardson, Galway, Ireland.

MORTALITY OF THE METROPOLIS.

Deaths from all causes registered in the week ending Saturday, September 7.

Dropsy, Cancer, Diseases of Uncertain Seat	87
Diseases of the Brain, Nerves, and Senses	134
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LECTURES

ON THE

NATURE AND TREATMENT OF DEFORMITIES,

Delivered at the Orthopædic Institution, Bloomsbury Square.

By R. W. Tamplin, F.R.C.S.E.
Surgeon to the Institution.

Talipes Varus—*continued.*

The *treatment*, which we now come to consider, gentlemen, resolves itself into the mechanical solely, or surgical and mechanical combined. With regard to the mechanical, I think sufficient evidence is daily before us of its general failure, from the results witnessed of patients who have been subjected to stretching and rubbing, and the wearing of instruments all their lives; and the existence of this institution is an evidence of its general inutility. I have not much, therefore, to say upon this head. It will undoubtedly reduce the severity of the appearance of the deformity, and may, in the slightest amount of contraction, perhaps effect a cure,—at least we are told it does so. I can only say, I have tried it both in congenital and also in non-congenital cases, when the deformity has been slight, and the contraction of the muscles very limited, but I cannot bear testimony to its success on the one hand, or the propriety of it on the other. I have no doubt it is a very *profitable* method of treatment, for under the most favourable circumstances it must be of long duration. Therefore, both to the attendant and the machinist, it is thus far successful: but it is not for the pecuniary benefit of those who would ascertain the best method of *making the most* of their patients, that I am giving you my ideas upon this subject. The horrors of an operation are also removed, which, to the patient who can know nothing about it, are not insignificant; the very idea of the knife is to many an insurmountable objection. Therefore, in these instances, mechanical treatment is the most satisfactory to the patient, and should apparent improvement be observed, they will be perfectly content, which is sure to be the case, as no case presents itself in infancy that cannot be much improved in appearance by the hand alone, but I have not seen a perfect cure by mechanical means, although I have heard of it. The deformity in infants, as I have endeavoured to prove to you, is the result of, and maintained by, the action of the muscles alone; it is obvious, therefore, that the more speedy and easy the method of cure, and the less painful it is to the patient, the better; the motto "cito tuto et jecunde" must apply here, as well as to every other disease we are called upon to treat. If, then, the division of the contracted muscles will effect this, there can be no question of its importance, of its necessity. The next question is, what is the most favourable time for the patient—in the early months of infancy, or at a later period? I know it is, and has been, recommended to postpone it until the period at which the child would be expected to walk, and to endeavour to abduct the foot by the constant application of splints up to that time. My opinion, however, is, that if it be necessary to perform the operation, the sooner it is done the better; for it must, I think, be evident that a great advantage must be gained by the patient, as the foot of necessity will grow in the position in which it is placed. It must, I think, be admitted that the growth in the natural position is far preferable to the growth in the deformed position, both as regards the muscles and the ligaments of the joints. And again, in infants of a few weeks old you have no additional irritation to contend with, and the foot becomes placed in its proper position previous to the irritation of teething, or to the numerous ills to which children are subject. The maintaining the foot in position at this early period, after the contraction has been overcome, is a matter which occasions

no pain or inconvenience, with the most ordinary attention; much less than the constant confinement in a splint, with the muscles resisting. Again, if proper care be taken, the development of the muscles become thus naturalised, and the diminished development consequent upon their passive condition, even in infants, is prevented. Thus in every point of view it appears to me to be decidedly preferable to operate at the earliest opportunity. I have frequently performed the operation on infants of not more than five weeks of age, and should always recommend it to be done at this early age when opportunity offers.

The muscles whose tendons you will find it necessary to divide in every confirmed case of talipes varus, are, as you may have already anticipated, the anterior tibial, posterior tibial, gastrocnemius, and when the plantar fascia is contracted (decidedly), it will be as well to divide that also. The posterior tibial is the first muscle I would advise you to divide, inasmuch as the gastrocnemius assists to hold the foot firmly. The method I have adopted is the following:—let the child be laid horizontally on its back, and let the leg to be operated upon be everted so that you have the inner side facing directly upwards; you thus have the tendon directly before you: you will then feel for the tendon, which in a thin child can easily be felt to rise under the finger, upon any attempt to abduct the foot. In a fat child, however, you will not be able to do so, for you must recollect it is the edge of the tendon which presents itself, and not the flat surface. The guide I then find successful is the internal edge of the tibia (which can at all times be felt with more or less pressure), and the tendon, as you are aware, lies directly behind it, and close to it. Having, then, the foot and leg firmly held by an assistant, you place the thumb of the left hand on the edge of the tibia, or close to it; you then with a small scalpel puncture the fascia by passing it perpendicularly down, and with care, or you pass the instrument too far, and puncture the artery. But if you do it slowly and cautiously, you will be enabled by a sort of grating sensation to feel the fascia, in which you make a small slit; you then withdraw the scalpel, and introduce the blunt-pointed knife in a perpendicular direction also, or you will get on the tibia on one side, behind the tendon on the other, from its close approximation to the bone. As soon as you have got the knife before the muscle, or what you imagine to be so, depress the handle, and satisfy yourself, by the resistance, that it is so: having done this, turn the sharp edge to the muscle, and divide it, directing the assistant at the same time to forcibly abduct the foot. You are aware that the artery lies very near to the posterior tibial and flexor digitorum muscle, and if you do not exercise great caution and judgment as to the distance, you may divide that also, which it is prudent to avoid: although at present we have seen no ill effects from complete division of the artery, yet we are not to imagine that such will be always the case. You may form some idea of the proper distance by letting the knife touch the edge of the tibia first, then pass it onwards about a quarter of an inch, and divide the muscle. You must recollect that in infants muscular fibre exists almost down to the internal malleolus, so that the division will not give so sudden a sensation as of the division of tendon alone; but in all cases, I am confident, if the muscle is divided, the sensation must be communicated to the hand of the assistant. After having divided this muscle, place a piece of lint on the point of puncture, and keep the finger on it, and then proceed to divide the anterior tibial. This tendon you will generally be enabled to feel as it passes over the joint on the inner side, but in fat children you will experience great difficulty in finding it. It is better for you to satisfy yourself, previous to introducing the knife, of its position, as it is then done with the greatest facility. Having found the tendon, you place the fore-finger on it, and introduce a sharp-pointed knife under it; the assistant at the same time abducting the foot, as in the other instance. Let a piece of lint be applied, and the child turned on its face, so that you may have the tendo-Achilles directly before you. Here I would beg to caution you as to the position of this tendon, as you will not find it in the median line, as in the normal position of the foot, but considerably inclining to the inner side, lying directly over the vessels and posterior tibial tendon; and although with care you will find it easy to divide, yet care is requisite or you will transfix it on the one hand, or, by puncturing a little too deeply, puncture the posterior tibial artery on the other, which latter accident has actually happened. The manner of dividing it is the same as I detailed to you in my former lecture.

Having, then, divided these three muscles, you apply lint and strapping, and support the foot with a bandage; this you will allow to remain for three or four days, or until the punctures are healed. You then apply your mechanical apparatus—either Scarpa's shoe, or a common tin splint in infants, having one side piece, but extending only to the ankle, protecting the heel from pressure by padding the leg just above the os calcis, then strapping the splint to the leg, and leaving the foot free; the abduction may be easily effected with a small bandage passing round the anterior portion of the foot and splint, gradually bringing the foot to the splint, and, when the abduction is com-

plete, by bending the splint gradually, you may flex it. This plan I have frequently followed with complete success. If with Scarpa's shoe, first abduct the foot gradually, taking care the child is not in pain, and that there is no undue pressure. After the abduction, proceed gradually with the flexion, as in talipes equinus (which, in fact, it will then become), until it is bent beyond a right angle. You must then direct the mother how to apply the instrument, and let her take it off once or twice daily, with a view of exercising, with her hand, the motion of the joint. But do not allow this until all firm resistance is overcome, or you will find that the foot will almost invariably relapse to its former position. The time occupied will vary, according to the rigidity and severity of the case, from fourteen days to six weeks or two months; but you ought certainly to get it in position by that time, unless there has been any casual interruption to the treatment. In youth and adult deformity you will proceed in the same way with the operation, but as there is no superfluous fat you will be enabled to feel the posterior tibial tendon with ease; as oftentimes, by directing the patient to adduct his foot, a portion of the tendon rises above the bone. The anterior tibial tendon and the tendo-Achilles are also well defined, so that the operation is greatly simplified.

Other methods have been adopted in dividing the tibialis posticus—1st, that of passing a sharp-pointed knife behind and beyond the tendon, and then cutting directly onwards or inwards, according to the position of the leg. But by this method you run the risk of puncturing the artery, and of breaking the point of the knife in the bone, which I have seen done; whereas, in the method I have adopted, you do not disturb the integrity of the sheath or periosteum, except at the point of puncture, and thus avoid adhesion between the new uniting medium and periosteum.

In these cases, when the patient has walked for a greater or less number of years on the dorsum of the foot, where the ligaments of the foot have become contracted, and offer a firm dense resistance, you will find it impossible to proceed quickly. You will first, by a straight splint, abduct the foot, and, if in the adult, divide only the anterior and posterior tibial and plantar fascia at the first operation, with or without the flexor longus pollicis; and after you have abducted the foot, divide the tendo-Achilles, and proceed with the flexion. The reason for dividing the whole at one operation, in the infant, is, the short time occupied in abducting the foot, so that time is not allowed for the new uniting medium to offer any resistance; whereas, in the adult and youth, the time occupied in abducting the foot is sufficient to enable the new substance to become firm, and offer as much resistance, or nearly so, as before the operation. In dividing the plantar fascia I would advise you to be cautious, and not to insert the point of the knife too deeply, as you may puncture either of the plantar arteries: should you do so, you may be compelled to take it up.

A boy of about sixteen years old, whom I assisted to operate upon, had the internal plantar artery punctured. Compression was kept up for weeks, at the end of which time it appeared to have completely healed. This lad afterwards came under my own immediate care. The extension was then commenced, and continued for three weeks, at the end of which time a lump was noticed on the sole of the foot. On carefully examining it, with my friend Mr. Ormerod, we could detect no pulsation, and decided upon laying it open. Upon introducing the lancet, clots of blood escaped to the amount of two or three ounces: I made a crucial incision, and cleared the whole out. I then placed a firm compress on the sole, and kept it fixed by strapping and bandages, and sent him at once to bed, keeping the foot raised by means of a pillow. For three days all appeared going on favourably. On the third day, however, the nurse sent round in a great hurry to say the boy was bleeding. When I arrived I found the bleeding stopped, and thought it possible it might be a discharge of blood and matter. However, on the following morning, it again returned, and evidently was pure arterial blood. I then called Mr. Lawrence in consultation. He agreed that it would not be prudent to delay the attempt to take up the artery. In the afternoon, with his most kind assistance, I laid open the sac freely, and found the sole of the foot full of clots of blood, matter, and shreds; on removing which, the artery was seen to bleed freely. A ligature was then passed under it by means of the needle, and tied, which effectually controled the hæmorrhage. The boy felt a twitching pain, which was allayed by opium, and, much to my surprise, not a bad symptom followed. The ligature, however, has not as yet come away, eight or nine weeks now since the operation. But a more troublesome or difficult operation cannot well be imagined. You will therefore see the necessity of being cautious. This, I must observe, is the sole instance of this accident that has ever occurred, but it is sufficient to teach us a useful practical lesson. Compression on the posterior tibial artery did not control the bleeding in the least; compression on the anterior and posterior, however, did control it to a great extent, but not completely, so that we had no alternative but to take up the artery as I have before described to you.

The time occupied in treating a bad case

of talipes varus will vary from two to six, eight, or ten months, as it is impossible to overcome recontracted tissues, except by the most slow and cautious proceeding, and it will require the greatest vigilance to prevent a slough on the points of pressure. After you have abducted and flexed the foot, you will frequently find, as I pointed out to you, the tarsal extremity of the fifth metatarsal bone projecting considerably, so much so, that the weight of the body is thrown completely upon it, rendering it impossible for the patient to walk without some protection. I have used and found a spring pad, similar to a truss, well applied, raise it sufficiently to prevent any inconvenience, the one passing on the inner side, and upon the under surface of the fifth metatarsal bone, the other on the upper surface of the first and second metatarsal bones, and which, by the constant pressure of the spring, gradually reduces the arch of the foot, and raises the fifth metatarsal to a level with the sole. But this, I must tell you, is a tedious proceeding, and so, in fact, is the whole process. After the foot is in position, you will order a boot and support to be worn until the ligaments have gained strength in their new position, and also order the patient to flex and extend the foot night and morning. The cure in these cases depends on the restoration of the balance of power, especially in infants. You cannot fail to have observed that the peroneii have become weakened from their having been kept constantly on the stretch; and immediately after the foot is brought into position, it cannot be expected that these muscles will be enabled to keep the foot in its proper position; you must never, therefore, allow the foot to be without the instrument, or boot and support, night or day, until sufficient power is attained by the muscles to keep the foot in position; as, should you do so, the cicatrix will not only have drawn the two ends of tendon together, but the anterior and posterior tibial muscles will regain the preponderance of power, and render it impossible for the peroneii to recover themselves. This applies more particularly to infants and young subjects, as it cannot be expected that perfect motion can be recovered in complete varus of the adult, although they always possess limited motion. It is not necessary to interfere with the usual diet of the patient, either immediately following the operation, or at any time afterwards, but it is as well to guard against children taking indigestible food, as you may have suppuration and erratic erysipelas set up after the wound has healed, as in the following case.

About three years since I operated upon a child two years of age, for this deformity, and divided the tibialis posticus by making an incision and taking up the tendon on the director. The wounds healed by the first intention, and everything proceeded favourably until the ninth day, when, to my great surprise, I found the parts surrounding the points of incision swollen, red, and painful. The instrument was left off, cold lotion was applied, and purgatives with liq. antimonii tartarizati, was administered. On the following day the inflammation extended as high as the knee, and the leg became œdematous. The inflammation continued to increase the two following days, until the redness extended as high as the anterior superior spinous process of the ileum. The purgatives were continued, and on the fifth day balls of currants were passed; from which time the erratic erysipelas subsided immediately.

This case excited a great deal of uneasiness, as you may suppose; but it gave good practical experience on the important point of totally forbidding any kind of indigestible articles of food to be given to the patient during the early period of treatment.

ON THE

PHYSIOLOGICAL CHEMISTRY OF PROTEINE AND ITS COMPOUNDS.*

By Professor Mulder, of Utrecht.

Translated from the Dutch,

By James Paget,

Lecturer on Physiology, &c., at St. Bartholomew's Hospital.

(*For the Medical Gazette.*)

[Concluded from p. 827.]

The mode in which the sulphur and phosphorus are combined with the proteine, in the compounds above mentioned, is not yet known. But it is known that the combinations are constant. And hence it must be true, that, in them all (and, for an example, in fibrine), either there is combined with twenty atoms of proteine a small quantity of a substance composed of one equivalent of phosphorus and two equivalents of sulphur, or, really Ph S are combined with ten atoms of proteine. In both theories there is a considerable deviation from what we are accustomed to observe in most inorganic compounds, and we are therefore justified in considering, for the present, the simplest of the two to be the true one; that is, that Ph S are combined with ten of proteine. This peculiarity, however, does not stand alone, for one

* From the "Proeve eener Algemeene Physiologische Scheikunde," door G. J. Mulder, Hoogleerar te Utrecht. St. IV. pp. 312-344.

equivalent of alum has 24 equivalents of water of crystallization.

It cannot affect the question, whether proteine as such is combined with Ph S, or whether its constituents divide Ph and S among themselves: proteine is, like amygdaline, a complex substance, consisting of various others, and such a partition of Ph and S among its constituents is therefore probable; but it is settled, first, that proteine can exist without sulphur and phosphorus; and secondly, that there are compounds in which 10 atoms of proteine are combined with Ph S, others with Ph S_2, and again, others in which 10 and 15 atoms of proteine are combined with S. Those at present known, for example, are the following:—

Crystalline . .	15	Proteine	+ S
Caseine . . .	10	. . .	+ S
Vegetable gluten	10	. . .	+ S_2
Fibrine . . .	10	. . .	+ S Ph
Albumen of hens' eggs . . .	10	. . .	+ S Ph
Albumen of serum	10	. . .	+ S_2 Ph.

The combinations into which phosphoro-sulpho-proteine, or sulpho-proteine, can enter with acids, bases, and salts, or into which proteine can enter with oxygen, are important. With regard to the latter, two are known; one prepared from a chlorite of proteine by the action of ammonia, by which hydrochlorate of ammonia is formed, and, at the same time, a substance called tri-oxy-proteine (or tritoxyde of proteine) is produced. It is also obtained by boiling fibrine and albumen in water, and is a chief constituent of the buffy coat of inflammatory blood. It is always found in small quantity in the blood, and is prepared in the lungs. Its formula is—

$$C_{40}\ H_{62}\ N_{10}\ O_{15}$$

The second compound of proteine with oxygen is obtained from the preceding, by dissolving it in potash, and precipitating by an acid. The first precipitate obtained is proteine; the second, bi-oxy-proteine (or binoxyde of proteine)—

$$C_{40}\ H_{62}\ N_{10}\ O_{14}$$

The sulphur of the hair (= 2 equivalents) combines with the potassium of a solution of potash in which hair is digested, and sets free a corresponding proportion of oxygen, which unites with the proteine, and raises O_{12} to O_{14}, while all the other elements remain the same; then, in precipitating the bi-oxy-proteine from the sulphuretted alkaline solution, water is decomposed, and sulphuretted hydrogen is given off: H_2 combines with S_2, and O with Ka_2; so that from 2 (Ka S) and 2 (H_2 O) there are formed 2 (H_2 S) and 2 (Ka O).

These oxygen-compounds of proteine are important bodies. They may be alternately formed and decomposed in the animal body. Scherer found that moist fibrine, exposed to oxygen gas, absorbs more oxygen than it gives off carbonic acid. It was therefore possible that an oxygen compound of proteine was here formed; and this has lately been proved to be the case. Fibrine boiled in water leaves bi-oxy-proteine undissolved, and tri-oxy-proteine is found in the water.

The chlorite of proteine, obtained with decomposition of water, from albumen, &c. when chlorine is passed through the solution, has for its formula $C_{40}\ H_{62}\ N_{10}\ O_{12} + CL_2\ O_3$, and is of such definite composition that the equivalent of proteine may be accurately deduced from it. It is entirely analogous in composition with sulpho-proteic acid. This compound does not occur in the body, but it is important in the art of bleaching, in the disinfecting of animal matter by chlorine, in the application of chlorine in medicine, &c. That this chlorite is really a chlorite of proteine, and not a chloride of tri-oxy-proteine, is certain, from its analogy with a corresponding compound of gelatine.*

The compounds of sulphur, phosphorus, and proteine (fibrine and albumen), and those of sulphur and proteine (caseine), with alkalies, acids, and salts, are especially remarkable. Proteine is soluble in weak alkalies. Now, the serum of the blood is always slightly alkaline; it is a proteate (with sulphur and phosphorus) of soda†, and thus

* That compound is here alluded to which is obtained after drying the precipitate obtained by passing chlorine through a solution of gelatine: its formula is—

$$4(C_{13}\ H_{20}\ N_4\ O_5) + Cl_2\ O_3.$$—J. P.

† This is rendered very improbable by the recent experiments of Enderlin at the Giessen Laboratory (Annalen der Chemie und Pharmacie, April und Mai, 1844). He says, that both the ashes of the blood, and the precipitates which are obtained from aqueous solutions of them by nitrate of silver and chloride of calcium, will dissolve in acids *without giving off any gas:* and that aqueous solutions of the ashes, though strongly alkaline, may be neutralized by the addition of neutral chloride of calcium. It is

holds sulpho-phosphoro-proteine in solution. On this property depends the maintenance of the fluidity of the blood, and, thence, a first requisite of animal life. If a weak alkaline solution of proteine be neutralized with an acid, the solubility of the proteine with sulphur and phosphorus is greatly diminished; and this may illustrate the medical action of some acids, such as the sulphuric and phosphoric, which are well-known styptics, while acetic acid, an acid which easily dissolves protein, has, for this reason, no similar power. The hydrochloric acid, in very dilute solution, and the acetic acid, easily dissolve fibrine; the former exists in the gastric fluid*, the latter makes meat tender (as it is called) and assists digestion. Stable proteine-compounds, such as fibrine and albumen, kept for some time in extremely diluted hydrochloric acid ($\frac{1}{2000}$), are completely dissolved, without any other substance needing to be added†; a property by which the effect of the free hydrochloric acid of the gastric fluid is illustrated.

Further, many acids may enter into chemical combinations with sulpho-phosphoro-proteine; for instance, sulphuric acid and hydrochloric acid; and they form under certain circumstances less soluble compounds, for which reason they are powerful remedies in putrid fevers, scurvy, &c. [But acetic and citric acids, which dissolve the proteine compounds, are still more powerful]. These compounds are—

$(C_{40}\ H_{62}\ N_{10}\ O_{12}) + SO_3$.
$2(C_{40}\ H_{62}\ N_{10}\ O_{12}) + 2H_2\ O + SO_3$.
$2(C_{40}\ H_{62}\ N_{10}\ O_{12}) + 2H_2\ O + H_2\ Cl_2$.

The two last (sulpho-bi-proteic, and hydrochloro-bi-proteic acids), are prepared by dissolving coagulated albumen from eggs in acetic acid, and adding sulphuric or hydrochloric acid to the solution, and washing the precipitate with alcohol. Brughauer has found that both of them, if obtained from uncoagulated albumen, will completely lose their acid if kept for six weeks under water.

Lastly, sulpho-phosphoro-proteine can be combined with some basic salts. The combination which is found in caseine is especially deserving of attention; it contains bone-phosphate of lime ($3\ Ph_2\ O_5 + 8\ Ca\ O$), a salt which (in any case, a phosphate of lime) probably occurs in fibrine and albumen, and is by these carried to the bones. In casein (and therefore in milk,) it is present in large quantity, and thus a great amount of bone earth is added in a short time to the soft bones of the young animal. Metallic salts and metallic oxydes introduced as medicines, or as poisons into the body, may in like manner unite with the proteine compounds and form various proteates (with sulphur and phosphorus), which must of course act peculiarly in the body. Most of these compounds are insoluble, and thus resist the incessant chemical transformation of substances which goes on in the organism; hence arise peculiar conditions of the body, which, carried to a high degree, are destructive of life. It is thus, though not thus alone, that salts of silver, lead, mercury, &c. are poisonous when they are introduced in large quantities into the body.

Proteine is a complex substance, that is, it consists of certain heterogeneous bodies combined in one whole. Different substances, therefore, come forth under the influence of powerful agents.

When proteine is brought into contact with an alkali, ammonia is immediately developed. We can hardly make the alkaline solution weak enough to prevent the development of ammonia. When fibrine, or coagulated albumen, is dissolved in a weak potash-ley, we always see a development of ammonia. This property is, in connection with the alkaline property of the blood, of the highest importance: by it a leading property of proteine in the animal body is explained, namely, that it is in a state of constant change.

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evident, from these facts, that the ashes contain neither an alkaline carbonate, nor carbonate of lime, nor free alkali. The alkaline reaction of the blood, therefore, cannot be due to a free alkali, or an alkali combined with an organic acid; and Enderlin concludes that it must depend on the blood containing tri-basic phosphate of soda ($3\ Na\ O, P_2\ O_5$) a salt of which the ashes of blood contain 22 per cent. and of which the composition is not altered by a red heat.—J. P.

* Blondlot (Traité de la Digestion) has lately found that the gastric fluid collected pure from the dog's stomach produces no effervescence with carbonate of lime, and that what is evaporated from it in the most careful distillation of very large quantities presents no trace of acid reaction. If this be true, the gastric fluid can contain no free hydrochloric acid.—J. P.

† When hydrochloric acid alone does dissolve coagulated albumen, it does it so slowly and imperfectly, that one may suspect that it has no influence till the spontaneous decomposition of the substance has commenced, and that its action in this case is only the same as that by which it acts on the same substance after the stability of its composition has been shaken by pepsin.—J. P.

If albumen, or any proteine-compound, be boiled with potash, it is wholly decomposed. The products derived from the decomposition are certainly not all constituents of the proteine, but there are undoubtedly some among them which must be considered as constituent parts of it. They are the following:

		C.	H.	N.	O.
2 equiv.	Leucine . .	24	48	4	8
2 ,,	Protide . .	26	36	4	8
2 ,,	Erythroprotide	26	32	4	10
4 ,,	Ammonia .	—	24	8	—
2 ,,	Carbonic Acid	2	—	—	4
1 ,,	Formic Acid .	2	2	—	3
2 equiv. Proteine + 9 Water =		80	142	20	33

Leucine is a crystalline substance, which is also obtained from gelatine, and which thus marks a connection between the composition of proteine and the substances which yield gelatine. Under widely different circumstances it is obtained, with or without sugar of gelatine, from fibrine, albumen, caseine, and gelatine: *e. g.* from rotting cheese, and by boiling fibrine, albumen, or caseine with potash, we obtain leucine by itself; we obtain sugar of gelatine, by treating gelatine with sulphuric acid; and a mixture of sugar of gelatine and leucine by treating flesh with sulphuric acid or potash, or by treating gelatine with potash. Leucine and sugar of gelatine are, therefore, substances nearly allied to each other; leucine is to be regarded as an integral part of proteine.

The two other bodies, protide and erythroprotide, are extractiform substances (the latter is of a red colour), which are nearly related to gelatine.

Of the other three products of the decomposition of proteine by potash, the carbonic and the formic acids unite with the potash, and the ammonia is set free.

So long as it is unproved whether leucine occurs in the animal body, or that it is consumed in some of the secretions, this decomposition of proteine by alkalies admits of no application in the living organism. The analogy, however, between the two extractiform substances and gelatine deserves especial remark, and teaches us with some probability that, if animal cellular tissue is derived from proteine, this is effected by a similar transformation to that observed under the influence of alkalies.

It still remains for us to consider under what form proteine occurs in the animal body. The proteine of plants being combined with sulphur and phosphorus, or presented with these and phosphate of lime to animals, vegetable food is no more pure protein than animal food is. It is much to be regretted that we are almost wholly ignorant of the quantities of phosphorus and sulphur which occur in the vegetable proteine compounds; and so long as this ignorance lasts, nothing can be said with certainty of the formation of the animal from the vegetable proteine compounds, except that the proteine (pure) of the vegetable food passes unaltered into the animal body. But the formation of the albumen of serum, of fibrine, of caseine, &c. all proteine compounds, which it is probable do not occur in this form in plants, requires a yet further illustration.

In the animal body we are acquainted with proteine-compounds under various forms; in combination with sulphur—with sulphur and phosphorus—with sulphur, phosphorus, and alkalies—with sulphur and phosphate of lime—lastly, with oxygen.

In the state of solution, a compound of sulphur, phosphorus, and proteine occurs in the serum of blood, which has many properties in common with vegetable albumen, and with the albumen of fowls' eggs. It is especially in this form—as albumen—that proteine is found in various parts of the animal body. One examines no organ, no fluid (except those belonging to the secretions) without finding it. If one kneads, for instance, a minutely divided organ, a liver, kidney, or lung, with water, one obtains albumen coagulable by heat. It is found, too, in the lymph, in the effused serum, in the chyle, in pus. But whether in all these sorts of albumen there is always $10\,(C_{40}\,H_{62}\,N_{10}\,O_{12}) + Ph\,S_2$ is unknown: it is not probable that it is so.

In the brain, the spinal marrow, and the nerves, we find a large quantity of a substance similar to albumen, but firmer; so that, inasmuch as it is not so easily soluble in cold water, it appears to agree more with the solid albumen of the oily seeds. Brains rubbed with water yield just such an

emulsion as oily seeds do. The composition of these cerebral proteine-compounds, however, is as yet unknown; it is as well to stamp them all with the name of albuminous matter till we become better acquainted with them.

In milk, together with fatty matter, a sulphur-proteine compound occurs free from phosphorus. This is caseine, distinguished by its property of being precipitated from its solutions in water by rennet, acids, and especially lactic acid. Caseine [is said] to have been found in many other animal fluids; in saliva, bile, pancreatic fluid, in the crystalline lens, in pus and tuberculous matter, and, which is most important, in blood. But as all these conclusions are drawn from observing the traces of its properties, and not from analyses, the point is not to be considered as proved; though it would not be strange if caseine really occurred in the blood, since it may be readily formed by the removal of the phosphorus from the albumen of the serum, or from the fibrine.....And so of other proteine compounds. They, and perhaps the whole series of the albuminous substances of the brain, liver, &c. may be derived from the albumen or fibrine of the blood by a very slight alteration in the proportions of sulphur and phosphorus.

With regard to the fibrine of the blood, the first thing to remark is, that it exists in this form, not in the blood, but out of it. It forms the fibres of the muscles, fibres whose chemical composition is known to be a proteine-compound, but concerning which we are not as yet completely instructed. Their properties, agreeing with those of the fibrine of the blood, afford reason for thinking that they are chemically identical.

The fibrine of the blood, we know, appears in the act of coagulation. After coagulation we find stringy substances in the blood, which before were not found in it. The fibrine is said to be *dissolved* in the blood. But it is in a high degree improbable that this can be taken in the literal sense: the fibrine appears rather to be in a semifluid state in the blood.

Again, a third proteine-compound occurs in the blood, that, namely, which composes the cell-membrane of the blood-corpuscles, and which is, on this account, named *globuline*. Simon regards it as caseine. That it is a proteine-compound is beyond contradiction, but what it is, is at present unknown. As little, also, do we know what substance there is in the nucleus of the blood-corpuscles, and what is the fluid which is enclosed with the colouring matter in the membrane.

All these proteine-compounds of the animal body contain phosphate of lime in various quantities, and its quantity is not the same in the corresponding substances taken from different animals.

Two more very important proteine-compounds occur in the animal body, namely, the bi- and tri-oxyproteine (or binoxyde and tritoxyde of proteine). Both occur in large quantity in inflammatory blood; they form in respiration, and are a common constituent of the blood; the latter is soluble, the former insoluble, in water; both are products of oxydation in boiling fibrine in water; the latter is formed, also, in the boiling of albumen, and is a product of the decomposition of the chlorite of proteine; the former may be extracted from hair by means of an alkali*.

We find both these compounds, as constituents of the healthy organism, in the blood, in which they are formed in small quantities at every inspiration; and (as we shall presently explain in speaking of the colouring matter of the blood) it is probable that a thin layer of them, composed like an inflammatory buffy coat, is formed on each blood corpuscle [so as to modify the natural dark colour of the corpuscles, and make the mass of them appear scarlet, as venous blood does when seen in a milk-white glass]. They are products of the oxydation of the substance which, in the coagulation of the blood, becomes fibrine, and which in the lungs, receives oxygen, and circulates through the arteries in the form of the two oxydes of protein. In the capillaries they are decomposed and used in nutrition. Too great a quantity of these oxydes produces inflammation.

* A complete account of Mulder's researches on these two proteine compounds is given in the MEDICAL GAZETTE of the 9th of last February, by Dr. Golding Bird; but at p. 615, by an accidental transposition of lines, the binoxyde is said to be soluble and the tritoxyde insoluble in water: the truth, as the rest of the paper shows, is the reverse of this.

Tri-oxy-proteine occurs in pus, and is by some called *pyine:* bi-oxy-proteine forms tissues.

We cannot determine with certainty, how, and under what circumstances, proteine is prepared by plants. In examinations of mould-plants of the lowest formation, I have always found proteine in them, and this derived from non-azotized substances dissolved in water, and exposed to pure atmospheric air. Proteine is not absent in the very youngest radicles of plants; it therefore, like dextrine and cellulose, is among the very first of vegetable products. Without it, no organization in the vegetable kingdom appears able to exist . . . . . Since, then, it is certain that both dextrine, and cellulose, and proteine, are derived straightway from the food of plants, so it is probable that all the proteine which is found in the whole plant is formed at the extremities of the fibres of the root. Thence it may penetrate in the soluble state with dextrine through the cells already formed, to form elsewhere new cells, *i. e.* a combination of cellulose and proteine in, as it appears, definite proportions; or else, having been precipitated here and there in the solid form, they may be made soluble again, and transferred to other parts (see page 824). For many plants, indeed, a small quantity of proteine may suffice, although it is indispensable to the formation of every new series of cells. If one takes into consideration its excess in young cells, and the small quantity of it which there is in old ones, it is probable that the same quantity of proteine is applied to a thousand purposes in one and the same plant, being formed in the radicles, then deposited somewhere else, and afterwards again dissolved and carried to some other part. It may be believed, that it is very seldom consumed in plants; it appears, however, to be used in some families of plants for the formation of vegetable alkalies and other azotized substances, and it certainly forms chlorophyll, indigo, &c.

CASE OF DISEASE OF THE COLON.

To the Editor of the Medical Gazette.

Sir,

As the following case, though perhaps not of a very extraordinary kind, may not be without its use in the diagnosis of somewhat similar forms of disease, I shall be obliged by your giving it a place in your pages.

I am, sir,
Your obedient servant,
F. B. Pring,
Member of the Royal College of Surgeons.

Graddington, Yorkshire,
August 29th, 1844.

Mr. ——, twenty-five years of age, complained occasionally of pain in the left side, between the ribs and the spine of the ileum. He frequently passed a great quantity of blood from the rectum: his stomach was in a very irritable state, rejecting nearly all kinds of food, and latterly he vomited frequently a bilious fluid. His pulse varied from 100 to 120. Countenance cadaverous, perhaps in some measure from loss of blood; bowels generally relaxed; tongue not coated, but white. His nights were restless, but he slept frequently during the day. He had been six months under treatment in London by men of eminence before my seeing him. He had been salivated, had taken the compound decoction of sarsaparilla, and an issue had been made in the loins.

On examining the side in the situation of the pain, an enlargement of an oval shape was distinctly felt under the last ribs, pointing towards the groin. The situation of the tumor was such, that it was suspected by a professional gentleman of Leeds, who saw the patient in consultation with me, as well as by myself, to be an enlargement of the spleen, or a tumor immediately contiguous to this viscus. The most distressing symptoms appeared to proceed from the excessive irritability of the stomach. It was therefore agreed to give small doses of laudanum and prussic acid; to relieve the bowels by injections occasionally, if required, and apply blisters over the stomach. The skin covering the tumor in the side was also blistered, and the iodide ointment was rubbed in. Under this treatment our patient felt considerably relieved from the pain in the side, and other

symptoms ; but there was no essential amendment, as in about six weeks he died.

On examination, twenty-four hours after death, the stomach was found to be in a healthy state ; the liver of a pale ash colour, and the gall bladder distended with bile, some of which had exuded through its coats, tinging the parts adjacent. The pancreas was healthy, and the spleen small, but not diseased. The kidneys natural, and the ureters and bladder filled with urine. On tracing the intestines from the stomach, they were found healthy until arriving at the descending portion of the colon, where there were extensive adhesions. This portion of the bowel was much thickened, forming a tumor of a scirrhous kind, and an ulcerous opening was discovered in it, from which the contents of the intestine were prevented escaping only by its adhesion to the parietes of the abdomen. The rectum was partly filled with fæces.

ON THE

PATHOLOGY AND TREATMENT OF OVARIAN DISEASES ;

WITH CASES.

By Dr. Samuel J. Jeaffreson,
Physician to the Chelsea, Brompton, and Belgrave Dispensary, &c.

[Continued from p. 801.]

General plans of palliative treatment may be considered as they refer to the general health and constitutional powers of the patient, to functional or organic derangements of distant parts set up by sympathy or other causes, or to the ovarian tumor itself.

Whilst I would strongly urge upon practitioners the vast importance of this subject, both as respects the comfort and even the life of the patient, (for difference in management may make many years difference in life), I shall not venture to do more than give a very brief sketch of a subject, the more detailed and minute consideration of which might prove tedious.

In the more advanced stages of ovarian disease, the constitutional powers are for the most part broken down more or less, and require therefore such means, both medicinal and dietetic, as are best calculated to support the strength of the patient. Such is, however, by no means universally the case in the earlier stages of the disease, in which the existence of a plethoric habit, with general heat of skin, quickened circulation, and inflammatory tendencies, may require the use of cooling and evacuant remedies, spare diet, abstinence from stimulants, &c. Often, on the other hand, up to a very late period in the disease, no peculiar condition of the general health exists to demand especial interference or attention. Peculiar diatheses may require especial attention, throw much light on the pathology of the affection, and lead to the employment of means powerful in arresting, nay, sometimes perhaps even in curing, the local disease. I would be understood to allude more especially to the strumous diathesis, in which case certain remedies useful in many other affections of strumous origin afford increased hopes of advantage as respects their effect, through the system at large, upon the local disease. Such remedies are mercurial alteratives, tonics, liquor potassæ, iodine and its salts, as the iodide of potassium, some of the preparations of iron, &c. These remedies will, however, be more fully considered hereafter.

So many and varied are the functional and organic derangements of distant parts which may be set up in the course of ovarian disease, either by sympathy, mechanical inconvenience, or other causes, that it would be almost impossible to enter into all these circumstances. In the earlier stages, the pelvic viscera may be affected by inflammation, or the natural outlets of the bowels and bladder may be obstructed by compression : purgatives and enemata would appear to offer an easy remedy for the former, the use of the catheter for the latter inconvenience : these difficulties are not, however, always so readily overcome ; and more than one case is on record, in which puncture of the bladder above the pubis has constituted the formidable alternative for relieving the distension of this viscus. Some mechanical advantage may perhaps occasionally be obtained by tilting up the tumor with the finger introduced either into the vagina or rectum. Leeches, cupping, &c. afford relief by temporarily diminishing the vascularity and bulk of the tumor.

As the disease advances, inflammation of the peritoneum, general or partial, or of the various abdominal viscera, may demand our care. These must of course be treated according to their urgency and importance, bearing in mind the persisting nature of their exciting cause, and the state of the general vital powers. Whilst, therefore, general principles of treatment are adhered to, some cautions will be required not to carry general bloodletting, and the use of mercury, &c. beyond such a point as will be safely borne by the patient.

An irritable state of stomach, and constant vomiting, may require all our skill and tact to surmount. Here we should be careful thoroughly to unload the lower bowels, and if the irritability of stomach still continues, the effervescing salines, with small doses of some opiate, hydrocyanic acid or kreosote, sinapisms, and small blisters to the epigastrium, may be used with advantage. Obstinate constipation, or equally obstinate relaxation of the bowels, may accompany the disease in its further progress. Excessive flatulence is very commonly observed, and greatly aggravates the sufferings of the patient by augmenting the distension of the abdomen. The abstinence from all articles of diet most liable to induce flatulence, and the use of carminative medicines by mouth, or carminative injections, are measures, therefore, the judicious adaptation of which will often be attended by great relief. Amongst the carminative injections I have found that of the Confection of Rue, ʒj. vel ʒij. to the pint, as recommended by Dr. Seymour, one of the most efficient.

Ascites may complicate the ovarian disease, and still more infringe upon the distensive powers of the abdominal walls. The means of most avail in ordinary ascites will but too frequently fail us here, or at least afford only temporary relief; the ovarian tumor, the exciting cause of the ascites, being still in existence.

Lastly, urgent orthopnœa and dyspnœa augment the sufferings of the patient, and threaten death by suffocation; these symptoms, due to the enormous distension of the abdomen, and consquent pressure on the thoracic viscera, can rarely experience more than temporary relief and abatement from all our skill. The two last subjects, therefore, naturally lead to the consideration of

The palliative treatment of ovarian disease by surgical means, or paracentesis.—A great dread of this operation appears to have been entertained by the older practitioners; and even in the present day, if it be regarded with less timidity, the operation cannot be said to be one which is generally looked upon with much favour, its performance being considered in most instances as the last, and that but a temporary palliation of the disease. Authors have not, however, been sufficiently explicit in stating the grounds of their positive dread, or more tacit distrust of the operation; and, so far at least as my own experience goes, I think it would be difficult, from published records of ovarian disease, in which it has been performed, to draw up any very satisfactory statistical table, illustrative of its results.

Independently of ascites in this instance, a secondary affection, paracentesis, is of course applicable alone to the entirely fluid form of ovarian tumor, unilocular or multilocular; or to the fluid cysts of the mixed variety. The motives with which the operation is performed are the same in both instances, whilst the results obtained and the risks incurred are very different.

To paracentesis, in the unilocular variety of the disease, it may be objected chiefly that the rapidity with which the cyst refills is apt to accelerate the fatal termination of the case, by the consequent increased drain upon the system thus induced. Against this view of the subject, however, must be set the fact, that it snatches the patient from the immediate risk of death by suffocation, exhaustion, &c.; that it frequently affords immense relief to the sufferings, and that great numbers of patients have survived very many years, under the occasional repetition of the operation, to enjoy a very fair share of health and happiness during the intervals. In illustration of this fact, I may refer to Case No. III. Numerous other, and more striking instances, might, if necessary, be adduced. The re-accumulation may be very rapid, or it may not; we have no certain means of foretelling this. One source of failure may sometimes exist in the delay of this operation till the powers of the constitution are already too broken and

dilapidated. Paracentesis has occasionally, though very rarely, been followed by permanent cure. A curious case is related by Dr. Ogden, of Rochdale, in the 26th Vol. of the Medical Gazette, in which the patient, a Mrs. Jackson, æt. 32, had been previously healthy till the birth of her last child. Five months previously to her present attack the catamenia ceased; to this succeeded sickness of stomach, abdominal swelling, &c. and ultimately entire retention of urine. In this state Dr. Ogden found her, the patient considering herself pregnant. The retention of urine persisted; from the tortuous and compressed state of the urethra, it was found impossible to introduce a catheter. On examination per vaginam a tumor was discovered occupying the whole of the sacrum, and allowing little more than a finger to pass between it and the pelvis. A segment of the os uteri could with difficulty be felt above the pubes, which led in the first instance to the supposition of a retroversion of the uterus. On the left side of the vagina was found an elastic tumor, supposed to be the fundus of the bladder. In consultation and conjunction with Mr. Beckley, the bladder was punctured above the pubes, and two pints of high-coloured urine were abstracted. Being again, however, foiled in their careful attempts to pass the catheter, it was now resolved to puncture the tumor in the vagina, under the conviction that it was a fluid ovarian cyst. This operation was accordingly performed by means of a trochar. Four quarts of semi-transparent fluid were drawn off, which gave the patient great relief, and restored the action of the bladder; she was able to void her urine naturally an hour after the operation. The discharge from the ovarian sac continued for several days, and a permanent cure ensued.

I am inclined to suspect of this, as of the case before quoted as occurring to Dr. Mead and Dr. Ramsbotham's father, that the tumor was originally of the mixed kind, and had undergone the spontaneous process of softening. The tumor would probably, if left to nature, and had the patient survived, have ruptured itself in this situation; a process which was in this instance at least happily anticipated by the skill and boldness of her medical attendants.

It is remarkable, that whilst this case terminated in a permanent cure, in the two others the rupture of the sac was only followed by temporary relief. In the case related by myself, No. V. the rupture of the sac occurred in the recto-vaginal septum. An equally interesting and somewhat similar instance is recorded by Dr. Seymour, in his Gulstonian Lectures, as having occurred to himself. The patient had previously been under the care of his colleague, Dr. Badeley, for a very large ovarian tumor, which was hard to the touch, and irregular in its surface; the rupture of the sac was preceded, as in my case, by manifest softening of the tumor, and occurred also into the recto-vaginal septum. A case is also quoted by him, as having occurred in the practice of the late Dr. Warren, in which permanent cure followed a rupture of the sac into the large intestine. In this case also the rupture was preceded by manifest softening of the tumor, although we are not informed of the reasons which induced Dr. Warren to assume that the rupture took place into the great intestine, or what was its exact site. In the cases formerly quoted, as occurring to Dr. Blundell and Mr. Abernethy, I have already stated my reasons for believing with Dr. Ramsbotham that the cure was owing to a rupture of the sac into the bladder; another interesting case is related by Mr. Maclure, in a paper read before the Harveian Society, in which the tumor ruptured into the bladder. All these cases terminated in permanent cure. Now it is remarkable that whilst so many cases of permanent cure are observed when the rupture of the cyst has occurred in these situations, none hardly are to be found on record (at least, so far as my own limited means of research allow) where natural or artificial outlets have been established in the neighbourhood of the umbilicus. Many authors certainly speak in general terms of cures thus effected; but the general assertion is unfortunately not confirmed by the positive evidence of cures; more or less temporary relief being the only advantage obtained in the majority of cases related.

It is impossible not to connect the results observed with the situation of rupture; and it would appear probable that where this takes place at the most

dependent part of the cyst, its contents are thus more thoroughly and effectually emptied; and the sac perhaps completely collapses, and undergoes such changes, whether inflammatory with adhesions, or positive waste and atrophy, as to preclude the recurrence of subsequent secretion of its contents, and consequent distension. This is rendered the more probable, in that, in all the cases recorded of permanent cure, the first rupture of the cyst has been succeeded either by some continued drain for some days or hours, or by the re-rupture of the cyst after a day or two, as happened in my own case.

Could this view of the subject be rendered available in practice? Would it be practicable to imitate the process of nature? and might not the operation performed by Dr. Ogden, and so successful in its issue, be applicable in some other instances? It will be sufficient here to have thrown out the suggestion; such a plan could only of course be adopted in a few instances, and its applicability is rather a subject of consideration for the surgeon than the physician. I shall have occasion again briefly to revert to the subject, when speaking of the surgical means employed for the permanent cure of this disease.

It will not be necessary to say more than a few words on the subject of paracentesis in the multilocular and mixed varieties of tumor. It is in these cases that the most immediate risk to life attends the operation. Re-opening of the puncture is apt to occur, most likely from the degree of tension exercised on the abdominal parietes by the remaining portions of the tumor, whether solid or fluid; for wherever the fluid contents are separated into various compartments, if these be entirely separated from each other, the one punctured will alone be emptied by the operation. Peritonitis is also too apt to follow the use of the trochar in these cases, and that too of a low and most fatal character. This is probably due to the circumstance that the punctured cyst, retained in a certain position by its connection with the other portions of the tumor, collapses in such a manner after withdrawing the trochar as to allow of the escape of some portion of the fluid contents of the cyst into the peritoneal cavity.

Under these circumstances it need hardly be said that the operation is as much as possible to be avoided, and it even becomes a question whether we ought at the urgent desire of the patient to afford her temporary relief by means of an operation, by no means very painful, but which risks the abrupt fatal termination of a case, which, left to nature, aided by art, might by a bare possibility end in the universal softening of the tumor, spontaneous rupture, and cure.

Acupuncturation has been recommended by some practitioners in the case of fluid ovarian tumor; but I am not aware of many instances in which the result of this practice has been publicly recorded. One interesting case, however, has been published in the Lancet, by Dr. Robert D. Thompson, in which he had recourse to this mode of treatment. Acupuncturation was first practised in May 1838; the patient bore the operation well, and became much smaller in bulk: in March 1839, she was perfectly free from any disease.

In ascites complicating ovarian disease, paracentesis can hardly be recommended; it may be performed at the request of the patient as a means of temporary relief, but it is not likely to effect a permanent cure of the ascites, the exciting cause of which is still remaining.

The medical treatment to be adopted for the permanent cure of ovarian disease comes now to be considered; and happy, indeed, should I be, if I had much that was new and valuable to communicate on this head; it may not, however, have been altogether an unprofitable task to have brought together from my own limited personal experience, and from the records of others, additional evidence in confirmation of former opinions.

When we consider the prodigious amount of fluid depositions which are effused within the serous cavities and loose cellular tissues in some forms of dropsy, or of synovial fluid in rheumatism, or other diseases affecting the large joints, sheaths of tendons, &c., and that all these deposits are, under favourable circumstances, removed by nature under the assistance of our art, it appears strange that ovarian cysts, multilocular or unolocular, should be so perfectly organized as to be capable of secreting such enormous collections of fluid, and yet apparently be possessed of little or no power in effecting

their reabsorption. That this, however, is the case, is a matter of but too general experience; hence hydragogue purgatives, diuretics, and other remedies powerful in promoting the removal of other dropsical effusions, are of little or no avail in this disease. Indeed, it not unfrequently happens, that the employment of the more powerful remedies serviceable in general dropsy, in these cases, either from a mistaken diagnosis, or an erroneous impression of their applicability, is attended with considerable mischief to the patient's general health, and consequently even to the ovarian disease, whose removal they were intended to effect. Should the slightest doubt exist in the mind of the practitioner as to the real nature of the affection, it is of course right to avail himself of those remedies which are useful in ascites, some of which may, indeed, prove useful as palliatives in this form of disease; but the utmost caution should be observed to avoid the infliction of constitutional mischief.

Many remedies, indeed, are enumerated as useful in the treatment of ovarian disease, but authors have not always been sufficiently explicit in describing the particular form of the affection to which they are applicable. It is, I suspect, in the mixed form of tumor that these remedies, of which I shall presently have to speak, have been found beneficial.

No remedy with which I at least am acquainted can be with any certainty depended upon, as curative of the fluid varieties of ovarian disease. Emetics, indeed, have been highly extolled by the older practitioners; and from the known effects of these agents in promoting absorption, there would appear at least to be some grounds for their trial. Emetics appear to be much less frequently employed, under all circumstances, by modern practitioners, than they formerly were. It is true that more extended therapeutic resources may in many cases have banished their use for that of remedies less annoying and equally efficacious; but there seems some reason to believe, that if our forefathers erred in their abuse, we err sometimes no less in their neglect. I must, however, confess my own inexperience of this mode of treatment in ovarian disease.

Whilst, however, we have little hope of inducing a permanent cure of this form of ovarian disease by the use of general means of treatment, it must not be forgotten that in some few instances a cure has followed the employment of the palliative treatment; whilst in others the further progress of the disease appears to have been entirely arrested, or so greatly retarded, as to enable the patient to live many years, if not in perfect, at least in comparative comfort.

General plan of curative treatment, applicable to the mixed form of ovarian tumors.

Looking at the numerous forms and extent of solid as well as fluid depositions the removal of which is within the power of nature, we might be fairly induced to hope that the absorption of the solid portion of an ovarian tumor was not beyond the pale of possibility. Such hopes have not as yet, however, been satisfactorily realized. More, perhaps, might have been even now effected, had the attention of the medical attendant been earlier called to these cases; for it must be allowed that the very advanced stage of the disease, at which we are but too frequently called upon for assistance, must tend in no small degree to cripple our powers of relief. The general slow progress of the disease, too, which almost necessarily implies a no less slow process of cure, may but too often have induced some laxity on the part of the patient as well as the professional adviser in carrying out those means which would appear to offer the best hopes of success. In ovarian disease it frequently happens that the inconvenience experienced up to a certain period is comparatively small; and the patient who would willingly submit to a long and regulated course of medicine and general discipline for other affections, is slow to call for, or, when called, to follow out, the advice of a medical man. There appears no insurmountable reason why the day should not arrive when remedies may be applied with the same degree of success in ovarian tumors as they now are in many cases of bronchocele, enlarged liver, spleen, and absorbent glands; in thickening and consolidation of parts from inflammation, periosteal nodes, &c. &c.

Amongst the remedies which seem most entitled to our confidence as tending to the permanent cure of this

kind of disease, are iodine, the iodide of potassium, bromide of potassium, and liquor potassæ. The effect of these remedies appears to consist in their inducing that softening process in the solid part of the tumors before described, to which succeeds their spontaneous rupture and permanent cure. It must not, however, be supposed that such cases can be accomplished with any thing like the degree of certainty which obtains in the use of some other remedies in other forms of disease. The evidence, however, of the beneficial influence of these agents, is very considerable, and may lead us fairly to expect still more from their earlier application, and more steady, but careful, employment. To go no further than the cases of recovery recorded by Drs. Seymour and Warren, in the very interesting case related by Mr. Maclure, and that by myself, No. V., one or other of these remedies was largely employed; and I have also had several opportunities of witnessing the gradual softening of ovarian tumors under their use, when I have not been able to learn the ultimate termination of the case. This softening process in the tumor, then, appears to be the effect of these remedies; they do not, however, seem to possess much, if any, influence in promoting its direct absorption. What is their precise *modus operandi* it is not easy to decide. Dr. Seymour states it to be his opinion that they induce inflammation of the tumor. That inflammation of an ovarian tumor, set up by whatever cause, may induce softening and suppuration, there can, I think, be no reasonable doubt; but it is questionable whether the curative effects of these remedies are to be attributed to this cause. In Cases IV. and V. there appeared sufficient evidence of inflammation of the tumor even before these remedies were prescribed: in those related by Drs. Seymour and Warren, on the other hand, softening of the tumor is distinctly mentioned as occurring some time after the commencement of the remedies, whilst there is no mention of inflammation, excepting such as appears to have been immediately connected with the adhesion and ultimate rupture (by ulceration) of the cyst; such also would seem to have been the case in the instance related by Mr. Maclure.

Some caution is required in the use of the remedies here described, for although their curative effects appear similar, yet their action upon the system differs materially. I must confess my own partiality for iodine, which if it be the most potent remedy, is also the one which is attended by the greater risk of constitutional disturbance; it may be used either in tincture, beginning with six or eight drops of the T. Iodinii of the Dublin Pharmacopœia, two or three times a day, gradually increased up to fifteen, or the iodine itself may be suspended in water, or some other fluid, in doses of from a quarter to one grain, or a grain and a half, which may be combined with the iodide of potassium and liq. potassæ. The increased experience now possessed of the internal use of iodine renders its application more safe and practicable; but it should not be prescribed unless its effects can be watched by a medical man. The compound iodine ointment, or simply the ointment of iodide of potassium, may be rubbed into the abdomen either during or independently of their internal administration. It is advisable after a time to omit the iodine and substitute the liquor potassæ. The conjunction of these remedies with other medicines will often be found advantageous, especially with tonics in a feeble state of system; such combinations, for instance, as the iodide of iron; tincture of iodine, with that of the sesquichloride of iron; and the liquor potassæ with the wine or citrate of iron, or the bitter vegetable infusions. The iodine seems to be best borne when the tumor is in an indolent state, and the patient is free from any symptoms of febrile disturbance; although I have not considered the reverse of these conditions incompatible with its use, when the stomach will tolerate the remedy, and when the symptoms are not sufficiently urgent to require the constant use of other remedies of a palliative character, whose administration precludes the use of iodine. The liquor potassæ, or even iodide of potassium, will often be found useful when iodine is inadmissible.

The muriate of lime, formerly much more commonly in use for all forms of scrofulous disease, especially in the glandular enlargements observed in those affections, has been highly extolled by many authors in the treatment of ovarian disease. Dr. James

Hamilton, of Edinburgh, whose opinions are deserving of the highest respect, has borne very strong testimony in favour of this remedy; which, however, it is right to say, he combined with firm pressure upon the abdomen by means of bandaging and frequent percussion. This percussion was effected by means of an instrument consisting of a straight handle, which may be said to represent the wrist, and five metallic prongs, bent, as the fingers may be, at nearly right angles to the handle, the termination of each prong consisting in a round metallic ball of small size. The abdomen is to be percussed night and morning with this instrument for ten minutes at a time; the percussion should be quick and sharp, and the force regulated by the degree of sensation experienced by the patient.

Dr. Ramsbotham is inclined to attribute the efficacy of this practice, if it be efficacious, to the inducement of inflammation of the lining membrane of the cyst; for myself I am more disposed to attribute any advantage thus derived to the inducement of softening of the solid matter of the tumor; and indeed such seems to have been the effect described by Dr. Hamilton himself; but he still further relates many instances of cure apparently by direct absorption of the contents of the cyst. It is but fair to say, that neither in Edinburgh, nor elsewhere, so far as I can learn, does this practice seem to have satisfied the expectations which the high encomiums of so respectable an authority are calculated to excite. How far this may depend upon deficient zeal and energy in carrying it out, it is difficult to say. Not only in ovarian disease, but in all chronic affections, I feel persuaded that this degree of apathy both on the part of the physician and the patient has condemned many a useful remedy to disuse.

When we learn that Dr. Hamilton himself distrusted the efficacy of this treatment after the successful issue of three cases, and did not recommend it to his pupils till four more successful cases had been added to the number, and when too it is remembered that in most if not all of these seven cases the real nature of the disease, as well as the efficacy of the cure, was identified by numerous other experienced practitioners, it is impossible to refuse our assent to the beneficial effects in his hands of a plan of treatment, equally available to ourselves, if we choose to carry it out with care and patience.

Knowing the effects of pressure under somewhat similar circumstances, we might fairly be led to expect some advantages from its application in ovarian disease, and such indeed seems to be the case. Dr. Hamilton, it was observed, combined its use with the system of percussion, and the administration of the muriate of lime. In Case III. I was disposed to attribute the very slow reaccumulation of the fluid in some degree to the long-continued use of the iodide of potassium, and firm pressure, which, by means of a belt, I kept upon the abdomen for many months after the first operation of paracentesis.

Electricity has had its advocates in the treatment of these affections; I cannot speak of its effects from personal experience, but there seems no reason to doubt that it may occasionally prove serviceable both by favouring the process of softening of solid tumors, and as a direct promoter of the powers of absorption.

Friction steadily persevered in has been also strongly recommended in ovarian disease. There can, I think, be little doubt that this remedy, simple as it may appear, and easy as it is of application, has been but too much disregarded, not only in the treatment of this, but many other affections. The fault rests partly perhaps with the profession, partly with the public, who, like Naaman of old, who refused to wash and be clean, are too apt to require that some great thing should be done. Friction, as applicable to some other affections, appears to owe its efficacy to the promotion of absorption, and it is not unlikely also to assist in effecting the softening process before described. To render its use efficient it should be employed with some tact, and carefully and steadily persevered in for a great length of time.

Mercury.—So powerful an agent in accelerating the removal of some morbid depositions, both solid and fluid, does not appear to have received much sanction in the treatment of these affections. I have not much evidence to offer in its favour, having rarely had recourse to it excepting under the circumstances of unequivocal inflamma-

tion of the tumor or its cyst. Perhaps some part of the abuse which has been heaped upon it may be due to its indiscriminate application, and the carelessness with which it has been used. Some constitutions certainly appear remarkably intolerant of mercury, and especially, perhaps, the strumous: it is not, however, improbable, that in some instances its very careful administration in minute doses may promote the processes of softening as well as of absorption of ovarian tumors.

[To be continued.]

ANALYSES AND NOTICES OF BOOKS.

"L'auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Hints to Mothers for the Management of Health during the Period of Pregnancy and in the Lying-in Room; with an Exposure of Popular Errors in connection with these subjects, &c. By THOMAS BULL, M.D. 4th edit. revised. London: Longman and Co.

REGULARLY educated medical men have, as a general rule, set their faces against popular treatises on medicine. For our own part, though we have not acceded in all cases to the adage, that "a little knowledge is a dangerous thing," we are ready to subscribe to it in connection with medicine, in the strict sense of the word; that is to say, in connection with special disease, and the means of dealing with it. There can be little doubt that the class of books, at the head of which Buchan's Domestic Medicine may be placed, far from benefiting mankind, have rather done them a signal disservice. Such works lift the veil of the statue too high, and unaccustomed eyes, dazzled by the spectacle that is revealed to them, are altogether incapable of reading the indications in the countenance of the goddess. These books do in fact deal with what, in reference to the vulgar, may be termed the mysteries of medicine,—the matters which the cultivated understanding follows and appreciates, but which the untutored intellect can by no possibility comprehend. Books that profess to teach mankind at large the art and mystery of medicine and surgery, then, are only sources of mischief, and ought to be discouraged by every proper means.

There is another class of works, however, at the head of which, as the oldest, and, as still curious and interesting, may be placed the "Schola Salernitana," which pretend to instruct the community at large on the means of preserving their health and attaining to a green and vigorous old age, which we are inclined to regard as useful, in the same measure as we believe books of the former class to be pernicious. At the head of these books on general hygiene and regimen, as said, stands the "Schola Salernitana"; as perfect developments of the idea there shadowed forth may be mentioned Dr. Combe's works—Physiology applied to the Preservation of Health, and On the Management of Infancy, and the work whose title stands above—Dr. Bull's "Hints to Mothers." Who, possessed of the elements of liberal knowledge, that has read Dr. Combe's elegant volumes, has not read them with equal pleasure and profit? Who has not admired in them the sound physiologist, the excellent practitioner — his twin brother, by the way—the reasonable man, and the fluent and agreeable writer?—But our business is not with our dear friend Dr. Combe, but with Dr. Bull, whom we have not the pleasure to call friend, but whom we should be well pleased to address by the name. What Dr. Combe has done so ably for hygiene and regimen generally, and with special reference to the tender period of infancy, Dr. Bull has done with special reference to the no less interesting and, as society is now constituted, frequently precarious state of Pregnancy, or rather, and to convey an idea of the whole scope of the work, of Wifehood and of Motherhood,—to coin or adopt a couple of words suited to the occasion.

The newly-married woman, the bride, has been an object of interest and tender consideration with semi-barbarous and civilized men in all ages of the world. One of the first forms of worship paid by man to the Divinity appears to have been under the symbol of the Generator; whence the Lingam worship, still general in India, and which in former ages appears to have been all but universal. The Hebrew women held barrenness as the worst of all infirmities: "Give me children, or I die!" exclaims one of our Scripture heroines; and part of the ceremonial that is still observed among the Jews

on the birth of a man-child—circumcision, and among christian nations at the hymeneal altar—the giving a ring—have unquestionable reference to the antique and extraordinary respect in which the generative faculty was held by primitive man emerging into the light of poetry and reflection from the long night of a merely sensual existence.

Even in the polite nations of what we are pleased to style antiquity, Greece and Rome, the women must have been vastly forward in a kind of knowledge in which our females are generally mere infants. Fancy the virgins of Athens decorating an enormous Phallus with wreaths of flowers, and following the article through the streets of their city in solemn procession, singing hymns in praise of Bacchus and the Phœnician Astarte under her Greek name of Aphrodite! We should certainly open our eyes in these degenerate days, did we come upon a train of the virgins of the metropolis engaged in any such proceeding. The women of antiquity could have been in no want of information in regard to the altered circumstances attending their newly assumed state of wife and prospective mother; their minds were prepared for this by all their previous habits, and doubtless also by their elementary education. Ours, once they have entered the cohort of matrons, are unquestionably often exceedingly at a loss; many of them certainly are not yet disabused of the nursery faith in the advent of each new baby from the parsley bed, or of its arrival by the mail-coach with the nurse in the night.

"In the minds of married women," says Dr. Bull, "and especially in young females, those feelings of delicacy naturally and commendably exist which prevent a full disclosure of their circumstances, when they find it necessary to consult their medical advisers. To meet this difficulty, as well as to counteract the ill-advised suggestions of ignorant persons during the period [of pregnancy and] of confinement—are the chief objects of the following pages.

"While it is believed that much of the information contained in this volume is highly important to the comfort and even to the well-doing of the married female, much of it is, at the same time, of a character upon which she cannot easily obtain satisfaction. She will find no difficulty in *reading* information, for which she would find it insuperably difficult *to ask*.

"There are many little circumstances, too, in which it does not occur to her to seek for advice, of the nature and result of which she ought not to be ignorant. Young married women are especially liable to many needless, yet harassing fears, which it has been the anxious object of the author to remove, by showing that they have no foundation in truth."

In conformity with the purpose thus expressed, Dr. Bull's book is divided into ten chapters, of which eight refer to the mother, and two to the new-born intant.

In the 1st chapter he treats of the management of the health during pregnancy, and of popular errors on this subject—and truly, in excellent taste, under the guidance of good sound common sense; so that not only young married women, but junior members of the profession, may profit by his strictures. He concludes this chapter by some observations on the serious effects which matrimony sometimes, we should say, not *frequently* as Dr. Bull does, sometimes exerts upon young women of delicate health. Certainly nature's institute in reference to the higher forms of animal creation, is not that the parent in giving birth to a new being shall herself cease to be. So untoward an event does occasionally happen indeed, but it is the rare exception to the general rule. Dr. Bull, however, says enough in this place to frighten all delicate young ladies from marrying. Marrying in such cases now and then seems to produce a beneficial influence, but in the majority of instances the result, he says, is far otherwise (p. 7). He very prudently recommends that parents should do all they can to dissuade their children of delicate or consumptive habit from contracting marriage. We entirely agree with our author in the soundnnss of this advice. We can well believe, however, that he has the same misgivings as ourself of the probability of its ever being followed. Marriage is the crown of female existence, and the female organism that does not crave it, is hardly constituted, nay, is *not* constituted after the most perfect proportions. In spite of the mishaps too through the dis-

agreement of matrimony with particular constitutions, and the much exaggerated perils of child-bearing, it still remains true that married women in the mass have better and longer lives than unmarried women.

The 2d Chapter is entitled, "Of the Mode in which Pregnancy may be determined." We apprehend that there can be no difference upon this point; there is but one mode in which pregnancy can be determined. But this is not our author's precise meaning: it is "of the signs by which pregnancy may be known to have taken place," a chapter in which we find everything that seems desirable, put in the most delicate terms:—there is no indelicacy in any of nature's mysteries when they are treated of by the philosopher and the man of refined feeling. "The first symptom of pregnancy is the omission of that regular monthly return which, in female phraseology, is described as 'being unwell.'" To the general rule of suppressio mensium as indicating pregnancy there are four exceptions: 1st, a young female shall never have menstruated, and yet conceive; 2d, a mother shall conceive while she is nursing and not menstruating; 3d, a female shall conceive, and yet be unwell during the first three, four, or more months of pregnancy; 4th, conception occasionally takes place late in life, after menstruation has apparently ceased for ever (p. 48, 49).

Recent physiological researches enable us to interpret several of those exceptions satisfactorily; in regard to others, they leave us very much in the dark.

Chapter III. treats of the diseases of pregnancy; such as nausea and vomiting, heartburn, costiveness and the opposite, fainting, hæmorrhoids, &c. &c. Chapter IV. is on miscarriage, and the means proper to prevent it when threatened. Chapter V. on reckoning, or the mode of telling when labour may be expected. Chapter VI. contains hints for the lying-in room: Sect. 1, with reference to the mother; Sect. 2, with reference to the infant. Chapter VII. is on the breast—sore nipples, milk abscess, &c. Chapter VIII. treats of nursing, and also of weaning. Chapter IX. is on the management of health during infancy. And Chapter X. on the important subject of vaccination.

Our readers, from this brief summary, will be enabled to see how much information of a very useful and even indispensable kind is contained in Dr. Bull's unpretending volume. It is a work which the practitioner might often recommend to his prospective—patient, shall we call her? to the primipara, with the effect of saving himself a world of trouble, and the woman he is about to attend a world of anxiety.

MEDICAL GAZETTE.

Friday, Sept. 27, 1844.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in dublicum sit, dicendi periculum non recuso."

CICERO.

THE MEDICAL PROFESSION BILL —No. VII.

QUALIFICATIONS OF SURGEONS AND PHYSICIANS.

We paused last week in our progress through the Bill, clause by clause, to give what we believe to be a possible "theory of the measure," which has proved to be so different from aught that had been anticipated by the reformers in the profession, that though imprecated for years, and confidently expected, it fell at last like a very thunderbolt amongst them. Medical reform, with the great body of the agitators, meant participation in the government of the College or Company with which they are severally associated. By the Bill, and the Charter or Charters that must be held to constitute necessary appendices to it, they see themselves letted of everything like a chance either to meddle or make with the concerns of their College or Company—unless, indeed, they choose to go to school again, and present themselves anew for examination; which somehow or other few or none seem disposed to do.

Clause the 14th of our Bill, as we have seen, enacts that the Licentiate in medicine and surgery shall be 21 years of age before he can be regis-

tered. The advantages of this Clause are not so conspicuous on this side the Tweed as perhaps they ought to be held, or as they will appear north of that boundary. We have been accustomed in London to have no young man received either as member of the College of Surgeons, or Licentiate of the Apothecaries' Society, until he had attained the age of 21. We are not informed in regard to the present regulations of the Edinburgh College of Surgeons; but we remember them 25 years ago or so, to have been such that youths of 18 and 19 were currently examined and passed as Surgeons. Here, then, the Bill will do great good. No term of study is prescribed to the Licentiate. He may have studied one year, two years, or three years, as the examining boards, with the sanction of the Council of Health and Education, may see fit to require; but he must be one-and-twenty years of age.

The object, therefore, is obviously to secure a minimum of education and qualification in what we suppose we must call the lowest grade of the profession; in other words, to secure a grade of the medical profession having a minimum of education and acquirement.

We think it right to dwell upon this particular, from having observed that at several of the meetings of medical men which have taken place in various parts of the country, one grand purpose of the Bill has been assumed to be to secure "a *high* and *uniform* standing of qualification for all members of the medical profession*." The Bill will secure *uniformity* of qualification for the lowest grade only—that of the licentiate; it may be respectable, but it will not probably be high,—or wherefore the Colleges with their specified long terms of study and more mature age, and their grades of Associates and Fellows?

Whether it be desirable or not to have an inferior grade expressly contrived, will be determined variously by different minds. The framers of the Bill have apparently thought that it would be advantageous. We own that we should be fearful of a class of fags or scrubs in the medical profession, precluded by circumstances from all hope of rising beyond it. The younger members of the profession, both surgeons and physicians, and these often the men of the highest education, have long been found ready to undertake the hardest and most disagreeable offices in the profession. They never felt themselves degraded by them; they had still the beautiful axiom of humanity in their mind's eye—homo sum, nil humani me alienum puto; and after a few years they emerged in virtue of the dormant power which lay concealed in the liberal education they had received. The Bill, however, of itself, throws no obstacle in the way of any to rise who has the power. The Licentiate with the minimum qualification may take advantage of the enactments comprised in the 15th Clause, and when he has attained the age of 25 years, having previously prosecuted his studies for five years, he may present himself for examination before one of the Royal Colleges of Surgeons, and being found duly qualified to practise as a SURGEON, he will receive letters testimonial to that effect, in virtue of which he becomes a Fellow of the College where he was examined, and is registered and published to the world with his new dignity.

He who aspires to registration with the rank of physician, Clause the 16th enacts, shall have applied himself to medical studies during at least five

* At the Leeds meeting, for instance, it was resolved "That this Meeting views with satisfaction the approximation made by this Bill towards the attainment of a high and uniform standard of qualification for all members of the Medical Profession, and it is earnestly hoped in the progress of the Bill through the Houses of Parliament, its provisions may be rendered as complete as possible."

years, shall have attained the age of 26 years, and shall be a graduate in medicine of some university of the United Kingdom; but if he shall have attained the age of 40 years, and, after having been examined by the Royal College of Physicians of England, shall have been found duly qualified to practise as a physician, then he shall be admissible to registration as a physician. By the same clause it is expressly provided that no person shall be entitled to be received for examination, for the purpose of being registered as a physician, on the strength of any foreign degree in medicine, unless it has been obtained after residence within the precincts of the foreign university granting it during at least one year, and after due examination, and upon satisfactory certificates of previous study.—All this strikes us as not only unobjectionable, but as most just and proper. We have heard the difference of age between the surgeon and physician objected to; both might probably have been either 25 or 26,—26, we feel persuaded, is not a day too soon for reception as a physician. It is well also to leave the way open to the attainment of the highest rank. It is not every poor student who knows what a brilliant and prosperous practitioner is shrined in his brain. A door should be left open for such a man; and having reached 40, and worked hard, he may find a welcome, if he chooses, among brethren to whom the accident of early fortune had been more propitious. This is an infinitely more creditable and pleasant way of attaining to the *summos in medicina honores* than that by the purchase of a foreign degree. The agents for Giessen and other German universities' degrees will have to shut up shop forthwith.

Clause 17th enacts—that the same person, if possessed of the necessary testimonials, may be registered as both surgeon and physician; a registered physician, farther, may offer himself for examination before one of the Royal Colleges of Surgeons, and a registered surgeon may present himself before one of the Royal Colleges of Physicians for amination, and being found duly qualified each will be entitled to registration in his new or additional capacity.—This too is reasonable; and we trust that in civil life the double qualification will at once obtain the consideration which it has long held with some of our public boards, particularly the Army Medical Board. The military service of the country was held to require surgeons especially; but the experienced Baronet who has long been at the head of the Army Medical Department, knew that disease in a vast variety of forms did still more mischief than the bullets and sabres of the enemy, and he has therefore for many years held the possession of a degree in medicine in addition to the indispensable diploma in surgery as a great recommendation. All surgeons practise as physicians; physicians in great cities only do not practise as surgeons; we should have been pleased to have seen registration on the double testimonial not merely optional, but in certain cases obligatory.

Clause 18 is an excellent clause, conceived in the best spirit. It enacts, that every person registered after examination as a physician or surgeon under the Act, becomes a Fellow of the Royal College of Surgeons, or Associate of the Royal College of Physicians, from which he receives his letters testimonial; and that should he remove from the part of the United Kingdom in which he obtained these letters testimonial to another part, for the purpose of practising there, that he shall be enabled to enrol himself as a Fellow or Associate, or as both Fellow and Associate, we presume, though it is not so stated, of the Royal College or Colleges of that part of the United Kingdom, without further examination, on

payment of the fees of admission, and on complying with the conditions which are required of other persons who have passed their examinations for the purpose of being admitted associates or fellows of the said Colleges respectively.—This is certainly cement for the disjecta membra of the medical profession. How many young physicians watch the float which they have cast into the well-fished waters of the metropolis for years, without getting more than a nibble now and then, and who yet become thriving doctors in some town of the sister island! It would be hard that such men should feel themselves as aliens in their new place of election. The 18th clause secures them a reception among their fellows there, and makes them at once at home.

MEETINGS OF THE PROFESSION UPON THE SUBJECT OF THE MEDICAL BILL.

SINCE our last we have notice of meetings of medical men, on the all-engrossing subject of "The Bill," at Kidderminster and Hastings on the 16th inst., at Chelsea on the 17th, at Norwich on the 19th, and at Epsom on the 22d.

At the Kidderminster meeting Henry Homfray, Esq. was in the chair, and expressed his readiness to aid in any movement 'that should add to the honour of the medical profession, and promote harmonious feelings among its members.' Mr. Cole, of Bewdley, moved the first resolution, which was seconded by Dr. Roden, and was to the effect,

"That whilst, on the one hand, this meeting hails with satisfaction many parts of Sir James Graham's proposed measure of Medical Reform, it views with the deepest concern, on the other, his statement on introducing the subject of that measure to the House of Commons, 'That quackery could not be put down by legislation,' and is decidedly of opinion that any reform, such as the unconditional repeal of the Apothecaries' Act, would be ruinous to a vast mass of the profession, and fraught with great danger and injury to the public."

The second resolution, in asserting the incompetence or disinclination of the public to discriminate between the regularly educated medical practitioner and the uneducated pretender to medical science, vindicated the title of the former to protection, and pledged the meeting to the opinion that nothing short of summary punishment, by fine or otherwise, would remedy the evils inflicted upon the public and the profession by unlegalized practitioners. In connection with this resolution Mr. Thursfield quoted various instances of malpractice by uneducated men in his neighbourhood, in which death in some of the cases appeared plainly to have been induced by the procedure.

The third resolution, which "disapproved of the constitution of the Council of Health and Education," was moved by Dr. Roden. It was then resolved to frame a petition to the House of Commons on the subject, &c.

At the Hastings and St. Leonard's meeting, which was presided over by Walter Duke, Esq., the first resolution, moved by Dr. Mackness, expressed "disapprobation of the proposed Council of Health and Education, inasmuch as no general practitioner is, by the Bill, proposed to be appointed on it."

The second resolution, proposed by John Savery, Esq., is to the effect, that to repeal the Apothecaries' Act of 1815, without substituting any adequate protection to the great body of medical practitioners, would, if carried, be highly prejudicial to the interests of the profession and to the public welfare.

The third resolution (proposed by Jos. Ranger, Esq.) says: that the Society of Apothecaries are entitled to the best thanks of the profession for having extended the course of study and raised the position of the general practitioner, &c.

Other business, such as framing a petition to the House of Commons, forming a deputation to wait on the member of the Borough, &c. was then got through, and the meeting separated.

A full report of the Chelsea meeting, on the 17th, appeared in the *Times* of Monday last, Mr. Morrah in the Chair. The chairman said that the medical profession had for several years been

very uneasy by reason of the imperfection and injustice of the laws which had in ignorant times been enacted for the regulation of professional matters, and had striven to obtain a large share in the government of their corporate affairs, and a more effectual protection of the public health against the wiles of ignorant and unprincipled pretenders to the art of healing. The government had answered their earnest solicitations by bringing in a bill which entirely contravened the wishes of the entire mass of the profession, which removed every barrier against quackery, and deprived the profession of all semblance of corporate independence. Instead of Sir James Graham's being a bill to regulate, it was literally a bill to annihilate the medical profession.

Mr. D. O. Edwards, in a sensible speech, showed that the grand aim of all legislative enactments was to protect the community—he instanced the mint and the assay stamp of the Goldsmiths' Company. He alluded to the parade of factitious diplomas from the Pharmaceutical Society by chemists and druggists who had no medical knowledge, and avowed his persuasion that perseverance in the course threatened by the Home Secretary would be disastrous to the community. Various resolutions in harmony with the views above set forth were then passed.

The Norwich meeting was held in the Guildhall of the City of Norwich, John Green Crosse, Esq. F.R.S. Senior Surgeon to the Norfolk and Norwich Hospital, in the Chair. Resolutions expressive of obligation to Sir James Graham for the opportunity of considering and discussing the proposed measure; approving of the registration clause, but suggesting that the duty of registering should not be left optional, but be made compulsory; pointing it out as a defect in the bill that it had left undisturbed in their present practice and appointments several persons not now legally qualified; asserting that the Apothecaries' Act of 1815 had been very instrumental in advancing the most numerous portion of the medical profession, and that the Court of Examiners of the Apothecaries' Society were entitled to the thanks of the community; declaring farther that to repeal this act without substituting any general penal clause—by summary process of easy application—against unqualified persons is a great defect; finally, that the resolutions come to should be communicated to the borough and county members, and a petition to the House of Commons framed in harmony with them. The chairman wound up the business in an excellent oration, in which he particularly dwelt on the necessity of a penal clause to make any legislative enactment of avail.

At the Surrey meeting, held at Epsom on the 22d, Mr. Chaldcott, of Dorking, made some very pertinent observations on the state of the profession previous to the passing of the act of 1815, and as it is now, and as it has become under the influence of that act. The following paragraph conveys a fair idea of the way in which the able mover of the first resolution views the contemplated measure:—

"It is a measure which coolly throws overboard, as it is termed, the respectable, conscientious, and successful execution of a difficult and important trust; unsought by, be it remembered, but enforced upon it, by act of Parliament, and so effectively and ably executed, and carried out, as equally to astonish by its results the public bodies to whose superintendence it was first offered, and by whom it was declined, and the Government who left it in their charge. To repeal, therefore, an act of Parliament which, with all its imperfections, has such acknowledged merits, which affords the only protection, and that very small, at present enjoyed by the legally recognized general practitioner, and by the public, appears to be absurd, as well as mischievous. Gentlemen having obeyed the law, undergone an expensive and laborious education, are to have their only safeguard rudely swept away; and unprincipled, untested men, are to be admitted to free and unimpeded competition with them as candidates for public confidence. The public in general, ignorant of medical affairs, and incapable of a correct judgment as to professional qualification, too readily yields credence and confidence to the ignorant, unscrupulous, and artful pretender."

The Council of the Birmingham Medical and Surgical Association held their first meeting on Tuesday last, in

the Hall of Queen's College, Dr. Neale, Senior Physician of the Town, President, in the Chair, supported by upwards of 100 of the leading members of the profession. The Chairman opened the proceedings by exposing the injurious effects which the proposed enactments of Sir James Graham's Bill would have not only on the profession, but more especially on the community at large.

The Council then proceeded to take into consideration a code of rules and regulations submitted by the Honorary Secretary, William Sands Cox, Esq. having for their object "the protection of the public, the promotion of fair and honourable practice in the profession, and for opposing and discountenancing all practices that may have a tendency to bring the profession into discredit, or lessen its respectability. To arbitrate between its members, and to expel any member who shall be proved to be guilty of irregular and unprofessional conduct:" which were unanimously adopted.

REPORTS,

By H. Fearnside, M.B.,

OF

CASES TREATED IN UNIVERSITY COLLEGE HOSPITAL.

[Continued from p. 847.]

Acute pleuro-pneumonia of the left side of the chest; ægophony; friction sound; pneumonic character of the sputa; epistaxis. Successful treatment by bleeding, cupping, calomel, and antimony, and in a later stage of the case antacids and tonics.

Richard Ubsdell, æt. 23, admitted into University College Hospital, under Dr. A. T. Thomson, June 9th, 1843. A man of short stature, rather stout conformation, and sanguine temperament; his occupation is that of a tailor's shopman, and his work is rather light than otherwise; he has always had a sufficiency of food, and has been accustomed to the moderate use of fermented liquors; he is a native of Wiltshire, but has resided in London eight or nine years; his parents are living, and healthy.

He suffered from a mild attack of small-pox twelve years ago, and has also had syphilis, but with these exceptions he does not recollect having had any serious diseases, and his health is generally excellent; during the last few months, however, he has not been so well as usual; he has resided during this period in a confined situation in the neighbourhood of Oxford Street.

Two days ago, having some business to attend to, he rose early in the morning, and walked five or six miles exposed to a constant drizzling rain; on returning home, feeling much fatigued, he threw himself upon his bed in his wet clothes, and slept for three hours. On awaking he had severe rigors, experienced much pain in the left side of the chest, and difficulty of breathing; finding the recumbent posture to afford him some relief he again laid down for some time, but without undressing. On rising, the pain and dyspnœa returned; he began to cough, and had much thirst, heat of skin, and headache. He went out to the house of a friend, where he had hot flannels applied to his side, and took some hot brandy, rum, and beer. He returned home in the evening:—during the night he was unable to sleep; the pain increased in violence, and was sharp and lancinating, impeding respiration. On the following morning he again had severe rigors; the cough became more violent, and he expectorated some tenacious mucus. A continuance of these symptoms induced him to apply for admission at the hospital in the after part of the day. Upon his reception, 16 ounces of blood were taken from the arm; 5 grains of calomel were given, and ordered to be repeated in the morning; and he was directed to take half a grain of tartarised antimony every four hours.

June 10th.—The surface at present is above the usual temperature, and the skin of the chest is considerably hotter than that of the surrounding parts. The face is flushed, and the countenance restless; he does not complain much of headache, but is unable to sleep. The patient lies with most ease upon his back. His breathing is somewhat hurried—the number of respirations is 26 per minute; he complains of severe stabbing pain about an inch below, and a little posterior to, the left mamilla, felt especially upon attempting to take a deep inspiration. He has a frequent cough, and expectorates much brownish tenacious mucus. The whole circumference of the chest opposite the lower border of the sternum is 32½ inches; and of this the right side measures 16½ inches. Percussion elicits a dull sound over the inferior half of the left side of the chest, both anteriorly and posteriorly. The vocal fremitus over the same extent is abolished. Anteriorly the respiratory murmur is feeble or inaudible over the lower part of the left side, but superiorly it has a somewhat bronchial character; posteriorly the respiratory murmur is inaudible over the lower part of the left side; about the inferior angle of the scapula distinct ægophony is heard, and near the same

situation on the posterior and lateral surface of the chest there is a loud double-friction sound. On the right side the sound on percussion is clear, and the respiratory murmur healthy. Pulse 116, small, but resisting.

The tongue is moist, furred in the centre; he has some soreness of throat, is very thirsty, and has no appetite; the medicine has induced vomiting repeatedly; the bowels are freely open; he has no pain about the abdomen; the liver does not extend beyond two fingers-breadths below the margin of the ribs.

C. C. parti dolenti ad ʒxvj.

℞ Antim. Potassio-tart. gr. vj.; Mist. Amygd. Amaræ, f ʒvj.; M. Capiat cochlearia duo sextâ quaque horâ.

℞ Hydrarg. c. Creta, gr. v.; Pulv. Opii, gr. ss. fiat pulvis, sumendus inter singulas doses misturæ.

11th.—He is much freer from pain, and his breathing is less difficult; pulse 96, and softer; the temperature of the surface of the chest is less pungently hot; his bowels are relaxed.

12th.—The mitigation of the symptoms observed yesterday has been transitory; the patient is again worse this morning: this is probably owing to his having imprudently exposed himself to cold in repeatedly getting out of bed, and also to his having had some friends to converse with him yesterday. The pain has become as severe as before, and the cough more violent; he has also much headache,—was unable to sleep during the night, and at one time was slightly delirious. The lower part of the left side of the chest is very tender upon pressure; pulse 108, small, and more resisting; respirations 36 per minute; the expectoration consists of tenacious, slightly reddish mucus; the tongue is more furred; the lips dry and parched, and he is excessively thirsty.

The dulness on percussion over the lower part of the left side of the chest appears more marked than it was two days ago; over the lower part of the right side also the sound is less resonant than natural, and occasionally some sonorous rhonchus is heard.

C. C. parti dolenti ad ʒxvj.; Auge Hydrarg. c. Creta ad gr. viij.

13th.—He complains of being exceedingly "nervous" this morning, and is thrown into a state of trepidation by the least noise. The pain in the side is less acute and constant, and the respiration less hurried (28 per minute); pulse 96, and more compressible; the friction-sound is audible over a larger extent than formerly. He has had epistaxis; he complains much of headache, and rambles in his sleep; his bowels are relaxed.

V. S. ad ʒxvj.; Adde pulveri Pulv. Ipecac. Co. gr. v.

14th.—The cough is less violent, and the pain less severe; pulse 96, and still somewhat resisting; the thirst and heat of the surface have materially abated. The medicine still continues to induce sickness, but not to the same extent as when first administered; the bowels are freely open; the urine scanty. Œgophony has almost disappeared, and the friction-sound is heard loudly over the middle of the left back.

15th.—He has had epistaxis to a considerable extent during the night; the face is less flushed, and the febrile symptoms generally have materially diminished; he has much less tenderness upon pressure over the affected side; the physical signs remain as before.

16th.—He appears much depressed this morning,—answers questions with hesitation, and has some difficulty in comprehending their meaning; there is a slight appearance of sordes about the teeth; pulse 76, small and compressible; respirations 28 per minute; he coughs less, but the expectoration has the same rusty viscid character as previously.

17th.—The countenance is heavy, and the face more flushed; the intellect appears dull, but there was no delirium during the night; there is more sordes about the teeth; the tongue is dry, and shows a disposition to become brown; pulse 120; respirations 28 per minute. The expectoration has altered in character,—it is now a thin brown fluid, containing shreds and masses of opaque matter. The bowels are rather relaxed; the urine pale and clear.

19th.—There is less heaviness of the countenance and dulness of the intellect; there is also less sordes about the teeth; the tongue is moister, and is rather smooth and red about the tip; the gums are turgid and tender; pulse 104, soft and compressible; respirations 26 per minute; he is completely free from pain about the chest. There is dulness on percussion over the inferior two-thirds of the left side of the chest posteriorly; œgophony is no longer heard, but the friction-sound is extensively audible; over the lower part of the left side the breath sound is bronchial. The bowels have been much relaxed during the night.

Omittatur Mistura Antim. Tart. Post singulas sedes liquidas capiat. f ʒj. Mist. Cretæ.

℞ Hydrarg. Chloridi, Pulv. Opii, aa. gr. iv.; Micæ panis, q. s. ut fiant pil. iv., quarum capiat unam quartâ quaque horâ. Arrow-root, and two pints of milk, daily.

21st.—The diarrhœa has completely subsided; the countenance has assumed a more

natural expression; he is able to obtain a considerable amount of sound sleep; the sordes has disappeared from around the teeth, but the mouth is very sore from the influence of the mercury. He has no pain about the chest, coughs much less, but the expectoration maintains the same characters; pulse 112, soft and small; respirations 28 per minute; the physical signs remain as before.

In the subsequent progress of this case the patient's convalescence was somewhat retarded by a catarrhal attack, but with this exception his improvement was satisfactory. As his appetite became keen he was allowed a liberal supply of animal food, and some fermented liquor; the only medicine administered was the decoction of senega. Under this treatment he regained strength and flesh; his cough abated, and the expectoration became trifling in amount. The dulness on percussion upon the lower part of the left side, although diminished both in extent and intensity, did not entirely disappear before the patient left the hospital, and the friction-sound continued audible for a very considerable time. He was discharged from the hospital cured on July 13th.

Remarks.—There was little difficulty in forming a diagnosis in this case: the sharp lancinating pain of the left side, impeding respiration, and increased by all motion of the chest; the tenderness of the side on pressure, the cough, and fever; all rendered the existence of pleurisy of the left side highly probable, and this supposition was confirmed by the existence of a friction sound heard about the inferior angle of the scapula, and œgophony audible somewhat lower in the chest. The abolition of vocal fremitus also, over the lower part of the side, was, as first pointed out by M. Reynaud, another valuable indication of the existence of fluid in the pleura. The situation in which the pain existed was that in which it is most frequently observed in pleurisy; the inframammary, and inferior lateral regions of the chest, being its common sites.

The next question which presents itself is, was there any other disease than pleurisy? In simple pleurisy the cough is generally dry, but in this case it was attended with viscid expectoration from within the first twenty-four hours of the attack, and on the patient's admission it had quite the "rusty" character of that of pneumonia. The sound of crepitation was never distinctly and unequivocally heard, but this is easily explicable from the lung being pushed away from the walls of the chest by the liquid effusion. Hence we are fairly entitled to infer the existence of inflammation of the lower part of the left lung, as well as of the left pleura.

As is frequently the case, the *decubitus* in the present instance was upon the back; the tenderness of the affected side was for some time so considerable, that the patient could not bear the slightest pressure upon it; he could, however, throughout the attack, lie without inconvenience upon the healthy side; this was probably due to the effusion never existing in any large quantity, for the doctrine of Le Dran appears to be proved, viz. that inability to lie upon the sound side is owing to the pressure of the superincumbent fluid upon the mediastinum, which yields, and encroaches upon the space occupied by the healthy lung when the patient attempts to make the experiment. It appears reasonable to suppose, however, as was argued by Richerand, and is admitted by Dr. Townsend, that something may be due to obstruction to the dilatation of the side, owing to its being placed undermost.

The *respiration* in the upper and middle portion of the left lung had a bronchial character from the period of the patient's admission; hence, as there were no signs of condensation of this portion of the pulmonary tissue, its existence must be regarded as a proof of the correctness of the observations of those who assert the presence of bronchial respiration in pleurisy.

The friction-sound in the present instance continued audible for a much longer time than usual; this was probably owing to the effusion into the pleura never being in large quantity; the middle portions of the lung were thus never far removed from the parietes of the chest. Dr. Stokes mentions the existence of a friction sound (especially in the weak and feeble) for upwards of four weeks, and Andral has observed its persistence for upwards of three months.

The *ægophony* was remarkably distinct in this patient upon his first admission into the hospital, and continued so for some time. Its existence is not perfectly distinctive of the presnce of fluid in the pleura, as it has been noticed in some cases of simple pneumonia; it has been observed that these were in individuals possessing naturally a high-toned or shrill voice; hence most of the instances occurred in females. But taken in connection with the other physical signs before mentioned, the friction sound, remarkable dulness on percussion, and absence of vocal fremitus, it is quite conclusive as to the presence of fluid in the pleural sac.

The *epistaxis* observed in this case is not a common occurrence in pneumonia, or pleuro-pneumonia. M. Louis noticed it only in eight cases out of fifty-seven; in one of these cases it occurred on the first day; in three on the second, and in the rest from the fourth to the twelfth day; in three cases it was single, in the rest repeated. In the case upon which these remarks are founded

it first appeared on the sixth day, and it recurred several times.

With reference to the *progress* of the case; after the first bleeding, the operation of the calomel, and the first half-dozen doses of the tartar emetic, the patient was much relieved, and on the second day after his admission there appeared some probability of the complaint being, if not cut short, at least greatly mitigated. Probably from the causes mentioned in the history of the case, the inflammatory action received a fresh impetus at this time, and on the following day the patient was evidently much worse. Free depletion was required to subdue this exacerbation of the disease, and on June 16th there was manifested some disposition to the development of typhoid symptoms. About this time, however, the constitutional influence of the mercury first became apparent, and from this period his improvement was strikingly obvious; he began to have a desire for food; his tongue became moist and cleaner; the teeth lost their sordes; he slept better; and in a few days the cough gradually diminished in violence, and the expectoration in quantity.

The *causes* of the disease in this case are obvious; after fatigue and exposure to the weather, the patient threw himself upon his bed, and slept for several hours in his wet clothes. The effects of this rash proceeding were at once apparent in the pain in the side, the rigors and sensation of general "malaise" which he experienced upon awaking. From the rapid abstraction of heat from the surface of the body, the circulation there was greatly interfered with, and an increased quantity of fluids was directed upon the internal organs, and of these none are more liable to be injuriously affected under such circumstances than the lungs, from the magnitude of their vascular supply. Something might also be due to the local impression upon the parietes of the chest. The certainty of the operation of these causes was increased from the patient's having previously taken active exercise, during which an increased quantity of fluids would be directed upon the surface of the body, and here, as elsewhere, exaltation of function is followed by collapse, in which state it is more than usually liable to impressions from external agencies; again, the exercise had been carried to fatigue, in which state the protecting powers of the system are diminished.

The *prognosis* in this case was favourable as to the immediate result; the patient was young, previously in the enjoyment of tolerably good health, and the disease not very extensive. The right lung was little if at all implicated, and the affection of the left one was limited to the inferior portion. But in cases of pleuro-pneumonia, as has been particularly pointed out by Dr. Williams, the progress of the disease is peculiarly modified. From the compression which the inflamed lung undergoes by the external liquid effusion, the products of the inflammation are restrained, its whole progress rendered slow, and its effects more permanent. Any false membranes formed upon the pleura have time to become organised, and thus they bind down the lung in a compressed state. The lymph effused in the tissue of the lung may also become the means of the adhesion of the walls of the air-cells and small tubes, and thus more or less of the proper texture of the lung is obliterated. In this condition the lung is subjected to the dilating influence of atmospheric pressure, which of course can only act upon the unobstructed air-tubes, and as a natural consequence these become dilated.

Such a result may be feared with reference to the case before us. Although the liquid effusion never existed in any large quantity, yet it must have been sufficient to exert considerable pressure upon the lower part of the lung.

The *treatment* pursued in this case presented nothing peculiar; from the activity of the disease, and the youth and strength of the patient, free depletion was required to subdue the inflammation. In the present instance both calomel and tartar emetic were administered; in simple pleurisy antimony appears to be less efficacious than in pneumonia and bronchitis, but the coexistence of the former disease in this case rendered its employment desirable. There was considerably less tolerance of the remedy than is usually observed, as it continued to induce sickness for several days. As already mentioned, a striking improvement followed the first indication of the influence of mercury upon the system; so closely indeed, that it appears difficult to consider the connection in any other light than that of cause and effect. The diarrhœa which existed about this time was relieved by the chalk mixture; as a warm tonic the decoction of senega was subsequently given; this remedy appears to exert considerable influence upon some of the excreting organs, and in particular upon the skin and kidneys. The functions of these grand emunctories are thus called into greater activity, and the blood purified from any excrementitious matter which their previous inactivity may have allowed to accumulate.

Under this treatment the improvement of the patient was rapid, and he was able to leave the hospital in little more than a month after his admission.

DR. ARNOLD'S REPLY TO DR. BINNS' CALUMNIES.

To the Editor of the Medical Gazette.

SIR,

I FEEL assured, in throwing myself upon the respectability of your journal as the medium through which to refute a libellous attack against me, which appeared in the Lancet of the 25th April last, and which only reached me here yesterday, you will not fail to publish the following remarks.—I am sir,

Your most obedient servant,

W. ARNOLD, M.D.

Kingston, Jamaica, July 19, 1844.

P.S. The original letters quoted from, I have directed my agents, Messrs. Vacher and Son, of Parliament Street, to show you, or to any other gentleman who may feel an interest in the matter.—W. A.

"A person of the name of Arnold—William Arnold—lately published a work on Fever, in the construction of which he used whole handfuls of Lempriere, and complete sheets of Major Tulloch and Doctor Wilson's reports, here and there taking a passage from my tractate of Fever, and, fusing them all into one, dedicated the whole to Sir James M'Grigor! The only original thing about the book is the cool impudence of writing 'Fellow of the Royal College of Physicians' after his name, being no more a member of that learned body than General Tom Thumb the American Dwarf. It is impossible to explain, unless by supposing the man a fool as well as plagiarist, how he could venture to call himself a Fellow of the Royal College of Physicians and in London, when the assumption was sure to be discovered and exposed. I know that Frankland, by virtue of a forged Diploma (according to Wood) became member of the College of Physicians, and that a certain practitioner got knighted by a ruse, though he was never gazetted, but it was left for Arnold boldly to assume the Fellowship without the preliminary step of forgery or cunning."—Lancet, May 25th, 1844, page 281.

Thus writes the veritable Doctor Binns, the fire of whose wrath it would appear is never to be extinguished. It is not the first foul calumny he has levelled at me since I quitted London, which I treated with the contempt it deserved, and had it not been for peculiar circumstances, I should not have condescended to reply to the above incomparable specimen of malignant falsehoods.

My work on fever was published in the year 1840, and was well spoken of by the London journalists, whose critical acumen is at any rate equal to the foul defamer of my name. He accuses me of plagiarism: I most solemnly declare that I never saw Lempriere's work in my life, and I challenge the world to identify a passage I have used either from that, or any other work; and as to his contemptible tractate, as he calls it, the whole of my work was written long, very long, before I had the immeasurable misfortune of becoming acquainted with so reckless a libeller; the matter that is inserted in my work as an appendix was obtained under the sanction of my friend Sir James M'Grigor, who at any rate knows that I am no impostor, and knows well, right well, that all my titles have been honourably obtained, as the records of the Colleges I belong to will prove.

Mark how consistent this defamer, this Binns, proves himself to be, in the remaining part of his paragraph; and what must the world think of that man who could pen such trash and falsehood, knowing, as he must know well, that he is the writer of the following letter, and review of the very work he now so unsparingly, so incautiously, so vainly, and so impotently, attempts to condemn?

December 7, 1840.

"Dear Arnold,—I wrote you on Thursday evening, and inclosed a letter from Harding, I waited this evening, it being your lecture night; you would have awakened the echoes of my modest domicile. I inclose you now a leaf of the Woolwich paper with the *critique* on your yellow Jack book; there are one or two rather queer blunders in it, poor Grant not being a scholar, but on the whole he has executed the task not so worser."

Here is the Doctor's notice of my yellow Jack book, as he terms it.

"Fever has occupied the attention and excited the labours of all medical men, from the very infancy of the curative art, to its present, we would fain say, healthy adolescence—yet strange to add, so Protæan have been the forms, types, or symptoms of the disease, or so dissimilar their effects upon different constitutions, that scarcely any two writers have agreed either on the name, the treatment, or the proximate cause of the malady. While one has attributed the morbid action to the nerves, another has as positively asserted that it commences in the solids; a third alleges he has found the semina of fever in the brain; and a fourth, disagreeing with the theories of the preceding, and finding the language of the lecture-room exhausted, boldly strikes out a new path, and discovering a terminology for himself, surprises and perplexes us by gravely affirming that fever is the consequence of an *error loci!* But what this new principle is, whether malaria, fomites,

solar or lunar influence, night dews or animalcula, the theorist is by no means prepared to prove. In the work before us these glaring errors of an ambitious philosophy have been carefully avoided, and the author presents us in a plain, but by no means rustic style, with the fruits of many years' labour in Jamaica, in which the symptoms and treatment of the disease are unpretendingly laid down, and the text judiciously preserved from all extraneous matter. Limited as we are for space, we cannot go so deeply into the subject of the Doctor's work, as from its importance, and its highly interesting nature, we are desirons of doing; but we should be wanting in our duty to the service, did we not call the attention of military surgeons to the value and utility of the contents of this volume —among which, not the least interesting is the "Medical Topography of the Military Stations of Jamaica." Any further recommendation from us might possibly be cavilled at, and we consequently shelter ourself under the opinion of a medical friend, who has also enjoyed extensive opportunities of practice in Jamaica, and who gives his unqualified approbation to the work; while, as corroborative evidence that his opinion has not been vaguely formed, we have only to add that Sir James McGregor, Bart., Director General of the Army Medical Department, has permitted the treatise to be inscribed to him. With these very cursory remarks, we take leave of the very best work we have ever read on bilious remittent fever, its symptoms, treatment, and prophylaxis."

What, I again ask, must the world think of the man who writes the above in the year 1840, and in 1844 sets me forth to the world as a fool and a plagiarist?

Could he suppose me to be the fool he now politely designates me, when he could coolly and dispassionately write the following?—

"New North Street, Red Lion Square.
August 17, 1840.

"My Dear Arnold,—I rejoice that a Jamaica physician has vindicated the character of her practitioners, affected to be despised by the gravi atque doctes of the Great Babylon. You have at least shown them that we are not all 'Plantation Doctors, whose means of cure are the cart whip and salt water,' see Captain Southey's West Indies. I quote from memory, and hope I do not do that magnificent liar an injustice."

"Now, as to the use I purpose putting you to, it is twofold. We want both your penny and your pen—a Literary Newspaper to be published weekly. I will stick exclusively to the editorial department, you for the scientific, including medical papers."

Comment from me is unnecessary—an impartial public "will render unto Cæsar the things which are Cæsar's." The whole head and front of my offending, and which has unquestionably provoked all the unmerited and impotent abuse of Dr. Binns, is the failure of the Newspaper alluded to, a speculation which I was rashly prevailed upon to join in. This circumstance is only mentioned to point out how little dependence is to be placed upon such a person's integrity of purpose, and how little value is to be set on the writings of this calumnious and voluminous scribbler. The pages of the Lancet will certainly acquire no lustre from such scurrility as distils from the pen of Edward Binns, of whom I now take leave for ever.

INCREASED MORTALITY.

AMONG

CHILDREN UNDER THE HANDS OF UNEDUCATED PRACTITIONERS.

To the Editor of the Medical Gazette.

Sir,

It is only within the last two days, that I have had the opportunity of reading, in the Medical Gazette, the letter of Mr. Leigh on the increased mortality of children under the hands of uneducated practitioners. His statement is in perfect accordance with an opinion I have long entertained on the same subject, as pursued in the town and neighbourhood where I have my own residence, and which I had previously partially embodied in a letter addressed, last week, to the Editor of the Lancet.

My observations were elicited by the proposed Medical Reform Bill of Sir James Graham; wherein I confined myself *especially* to what I consider, at the present time, a most prevailing and increasing source of mischief to the profession, and danger to the public; namely, the *practising druggists;* for, as to quackery under the usual acceptation of the term, I look upon it as of minor importance. There have always been, and ever will be, quacks or boastful pretenders in every profession, art, and science, and vain would it be to attempt to put them down in medicine. Not so, I trust, with the druggist: he, it is true, proceeds on the same general principle as the quack, the *si vult populus;* and if it were only an innocent deception, it might be allowed to pass; but, when it comes to a matter of life and death, it assumes a more serious character. It would redound much more to the credit of the druggist if he were to act upon another maxim, "*ne sutor ultra crepidam;*" for when he does get beyond the last, he makes sad work of it; but then avarice prompts him; the pocket or till

wants replenishing! Has he, then, no conscience? Oh! yes, a little, a very little! For example, it hath, not unfrequently, happened to myself, as doubtless it hath to numberless others in the profession, that a patient has applied for gratuitous advice, especially a poor woman with a sick child. On the usual inquiry, if any advice hath been previously sought? Yes, sir, Mr. Such-a-one, a druggist, has seen it; but the child, instead of getting better, hath become so much worse, that Mr. —— did not like to go on any longer, and so recommended me to come to you. Here, then, his conscience pricked him a little! and, if the child died, which was not very unlikely, he had the satisfaction to know that it fell to my lot to sign its passport, as it were, to another world. Then the druggist's conscience was quieted, and the poor mother in some measure satisfied: the disease was inevitably mortal; she had at last had the advice of a regular doctor, yet the child died!

I know not what the apothecaries were in the days of Pope, but the druggists of the present day remind me of the following lines:—

"So modern 'pothecaries taught the art,
By doctors' bills* to play the doctor's part;
Bold in the practice of mistaken rules,
Prescribe, apply, and call their masters fools."

Now, sir, these lines, *nomine mutato*, only substituting druggists for apothecaries, become perfectly applicable at the present time. The cap would indeed, I think, fit more closely; for we cannot but suppose that the latter had something of a regular medical education, whereas the generality of the former have had none but that of compounding behind the counter; and yet have they the assurance to prescribe for, and even to visit, patients; besides which, each has his own family pill,—antibilious forsooth,—bile being the present fashionable order of the day!

I am aware of the difficulty of legislating on this subject; yet, when the gratuitous services of the medical profession are, as they ought to be, taken into consideration, and that they form the only class of society who do any thing gratuitously, surely they must be entitled to every protection the law can give them. It would not be possible, nor right, to prevent the druggist from selling his pennyworths of salts, jalap, rhubarb, and so forth; nevertheless, there should be a penalty attached to his prescribing for, and particularly visiting, patients; and this penalty should be adjudged, and summarily inflicted by the magisterial bench; the complaining party should not be forced on the remedy of a tedious and expensive law-suit: this latter circumstance is, doubtless, the delinquent's safeguard.

We occasionally read of a regular practitioner put on his trial for, and convicted of, malapraxis! Ought, then, the uneducated druggist to escape? He knows the several articles of the materia medica, indeed, their physical qualities, and perhaps their physiological effects, though this does not follow; but of their use in given circumstances, wherefore one should in any case be preferred to another, he is generally profoundly ignorant! Ought such a man, I say, to be allowed to escape with impunity for presumptuously meddling in matters of no less moment than those of life and death?

However the gross errors and fatal consequences of the uneducated may be legalized by enactment, or countenanced by non-enactment, they never can be the less morally criminal; nor indeed can the government be a good or a just government that does not essay at least to prevent them. I have now to apologize for thus intruding upon your, probably, more valuable time, and am, sir,

Your very obedient and humble servant,
MEDICUS PROVINCIALIS.

September 18th, 1844.

* *Bills, Medical Recipes.*

STHENIC AND ASTHENIC DISEASES.

To the Editor of the Medical Gazette.

SIR,

IN your GAZETTE of the 13th September is an article on "The Absurdity of Modern Doctrines in regard to Sthenic and Asthenic Diseases," wherein the writer forms a scale of degrees somewhat on the principle of a thermometer or other meter; taking for granted that it is essential, as in that instrument, that the middle degrees in the scale must be passed through to get from the top to the bottom. I think that his premises are quite incorrect, and that a scale of that kind can only be justly applied to the certain sciences, such as where the links in the chain are always persequent, and not as in pathology, or rather physiology, where the links or states between sthenic and asthenic diseases cannot be said even to be defined, and much less justly that health is *between* them; for I should say that a *disease*, whether sthenic or asthenic, existing in such a complicated machine as the human body, where one function hangs so much on another, cannot be said to be an exalted state of vital power, but a perversion of it; and it is well known that bleeding in some apparently asthenic states, as enteritis, will produce a sthenic state, but health does not *intervene* between these, but *follows* a happy termination of both. As I before said, Mr. Earle has made the mistake of applying the laws of a fixed science to an uncertain one.—I am, sir, yours, &c.

GUYENSIS.

Guy's Hospital, Sept, 21, 1844.

INCISION OF THE PERINEUM,

PERFORMED FOR ABSCESS OF THE PROSTATE.

By M. Lallemand.

A man, 30 years of age, had been affected for a month with an enlargement of the prostate. Pus was observed on the instrument which had been used in sounding him; he was in a low and weak state, and had hectic fever, with turbid urine. On an examination by the rectum, no resisting swelling was felt in the situation of the prostate, but a cavity conveying the sensation as if it contained matter. M. Lallemand considered this to be a case of abscess of the prostate; he thought its contents could not be readily discharged, because the surrounding parts could not compress the abscess sufficiently to bring its fibrous walls into apposition, and the urine, by constantly penetrating into the abscess, would prove a never-failing cause of inflammation, or at any rate, an obstacle to its absorption. The indications of cure appeared to be to prevent the urine passing into the abscess, to change the chronic into acute inflammation, and then to bring the parietes into contact. An incision was made in the perineum along the raphé, and carried to the neck of the bladder; the prostate was then freely opened, which gave exit to some fetid pus. The pulse was accelerated on the night of the operation, but the next day the patient was free from fever. On the sixth day, nitrate of silver was applied to the wound, and repeated every two or three days. The urine gradually passed by the urethra, and the patient was soon cured.—*Gazette Médicale*, September 7.

In the following case a new operation was performed by M. Pétrequin, to prevent the occurrence of the serious evils which sometimes follow severe contusions of the perineum.

On the 3d of January, 1844, an adult fell on a narrow platform from a height of nine feet; all the shock came on the perineum, which immediately began to swell, and retention of urine followed. On the 5th, when he was taken to the Hôtel Dieu, M. Pétrequin observed a large sanguineous effusion extending from the rami of the pubes to near the coccyx, a contused wound at the upper part of the scrotum, the integuments of a reddish black colour, as in impending gangrene; anxiety, thirst, &c. Having reflected on the generally fatal termination of cases of this description, M. Pétrequin determined to prevent infiltration of the urine, and on the 6th he introduced a catheter into the bladder, but with so much difficulty that he was satisfied the urethra had been injured. An incision was then made on the median line, and carried down to the catheter. The knife reached the catheter in the middle of the membranous portion, and the urethra was divided to allow the introduction of the *lithotome caché*. The catheter was then withdrawn, and M. Pétrequin opened the blade of the lithotome so as to divide only the point of the prostate, after which some urine passed; but it was necessary to throw into the bladder an injection of luke-warm water to remove the clots of blood which obstructed the wound, when the urine came away freely. A large gum-elastic sound was then introduced into the bladder through the wound, and allowed to remain. The next day the sanguineous effusion of the perineum and scrotum had decreased, the integuments were not so red, and the urine came through the wound. On the 12th of January, a few drops of urine came away by the natural passage, and the effusion had almost entirely disappeared. The catheter in the perineum was removed on the 15th, and replaced by one in the urethra, which was allowed to remain. On the 8th of February, the wound in the perineum was quite healed, and the patient restored to health.—*Gazette Médicale*, September 7th.

THE SPONTANEOUS CURE OF PHTHISIS.

By C. T. Collins, M.D.

[In the September Number of the New York Journal of Medicine, just received, there is a case headed as above, which is interesting taken in connection with the views of our ingenious friend, Mr. Robinson, which were published in last week's Gazette. It is possible that this case of Dr. Collins may have been one of empyema; yet the gurgling sounds are perfectly characteristic of a cavity in the substance of the lung, and the case may have been one of genuine tubercular phthisis affecting the right lung only.—Ed.]

"It is my belief that there are many more cases of phthisis pulmonalis cured by nature alone than medical men are generally aware of. I do not mean to say that we should always trust to nature alone, by any means, but that we should be very cautious lest we do too much. The case that I am about to relate came under my care the 29th day of March last. Sarah Hamor, æt. 55, born in England, had always been rather delicate. She was attacked last fall with erysipelas of the left hand and arm; and after recovering from that, she caught a severe cold, which was followed by a troublesome cough, and shooting pains through the chest, but more especially on the right side, from the right mamma to the shoulder-blade of the same side. She now began to lose flesh; and when I first saw her (which was as above stated) she was so much emaciated, to use a common phrase, that she was a mere skeleton. She was so weak, at that time, that she was

unable to help herself; she had profuse night sweats, severe cough, and expectorated about half a pint or more of light greyish yellow pus of a frothy nature (same as usually seen in the last stages of consumption) in the course of twenty-four hours. Her shoulders were raised and brought forward; the chest flat, and the clavicles very prominent, leaving a hollow. On auscultation there was that peculiar hollow gurgling sound, at times, heard over the right lung; and, at others, there was no sound to be heard of respiration at some points. The dyspnœa sometimes became so urgent that the friends several times thought her dying. Almost as soon as she fell asleep, she would break out in a profuse perspiration, and the little sleep she did get was not refreshing. There was an abscess on the right side of the spine, extending from about the second rib to the ninth or tenth, and about four inches wide, involving all the muscles of the back contained within that space. There was an opening about an inch and a half from the spine, over the region between the fifth and sixth ribs, which I enlarged by means of a bistoury, and kept open by the use of poultices. The abscess discharged constantly, and at one time nearly a pint of well-marked pus. When I was first called, I told the friends that I thought she could live but a very short time, which conclusion, I was informed, all parties concerned had come to before having had her brought into town.

She had been brought over the river from Wallabout, L. I., the same day that I first saw her—it being her desire to be at her friend's house, in this city, when her spirit should take its flight. My great object in her case was to palliate her sufferings, and merely make her as comfortable as possible during the time she might live. I told her friends to let her eat as much as she wanted, and anything in the way of ordinary food; also to let her have a small quantity of wine. Ordered the following mixture to be given at night, and at any time during the day when the cough was most troublesome: ℞ Gum. Acaciæ, Ext. Glycyrrhiz. ā ā ʒj., Syr. Altheæ, Tinct. Opii, ā ā ʒss., Vin. Antimo. gtt. x., Aquæ puræ, ʒiij. Dose, cochleare i. magn. I visited my patient daily, expecting every visit to be the last, for about a fortnight, when I was convinced that she was no worse: her night sweats began to decrease, and she got more refreshing sleep; her appetite seemed very good, and in fact it was rather voracious, and her cough was easier. The discharge from her back began to diminish, and at the end of four weeks was quite healed up. Her cough had nearly left her at that time, and she began to gain flesh. In about four weeks from the time I first saw her, her cough had entirely left her, and she was gaining strength fast. The only thing that she now complained of was pain about the right side, and a 'falling in,' as she said, of the right side of the chest, which she had observed during the whole course of treatment. The right side became much smaller than the left, owing to the chest's shaping itself to the new condition of the lung. In about six weeks from the time I first saw her she left town for Poughkeepsie, in better health, she said, than she had enjoyed for years. I gave her nothing of any importance besides cough mixtures, similar to the one first ordered.

There is certainly something very singular in this case, and some may be led to believe that there were no tubercles in the lungs, the affirmative of which I have every reason to believe, for I never saw a plainer-marked case. The left lung seemed, from the first, not to be diseased."—*New York Journal of Medicine.*

In answer to "An Enquirer," Clause the 28th of the Bill provides, "that any person legally practising as a physician, surgeon, or apothecary, at the time of the passing of this Act, shall be entitled to have his name registered as a physician, surgeon, or licentiate in medicine and surgery, on producing his diploma, license, or certificate."

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WILSON & OGILVY, 57, Skinner Street, London

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